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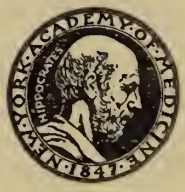

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THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY:

EDITED BY

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AND

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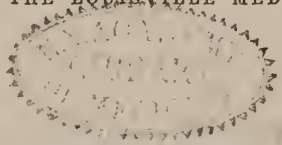

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THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

JULY, 1841.

ART. I.—*Remarks on Plethora, read to the Medical Society of Tennessee, at its annual meeting, in May,* 1841. By SAMUEL HOGG, M. D., President of the Society.

So often and so ably has the field of our profession been explored by the most eminent votaries of the science, that I have no hope of being able to bring forward any thing new or particularly interesting on the present occasion, and shall be happy if I can advance aught that has practical usefulness to recommend it. If, indeed, in the feeble state of my health, and under the trying bereavement which I have been called upon to endure, I had failed to address the Society at its present meeting, no one, perhaps, would have been disappointed. But anxious as I am to advance the interests of our pro-

fession, and to contribute all in my power to the usefulness of our meetings, I have resolved to offer a few remarks on a subject of much importance—I mean that state of the system denominated "PLETHORA,"—a condition, the prompt attention to which would prevent some of the most violent of acute diseases and subdue most of those of a chronic character. In submitting the following observations concerning it, I shall attempt to show the existence of plethora as a primary, tangible cause in the production or perpetuation of disease.

Plethora may be divided into two kinds: 1st., that which is natural, or as necessary to the developement, perfection and perpetuation of the whole organism of the system; and 2ndly., unnatural, or that which may arise from any deleterious cause acting upon the economy so as to derange its healthy operations. This may again be divided into general, or that which seems to affect simultaneously the whole system; and partial, involving one or but a few tissues, becoming a focus of irritation, and, if not removed, implicating, in time, every part of the body.

The first species, or natural plethora, prevails in the system of every healthy infant at birth. Few of the tissues, at that period, are perfect, but there seems to prevail, from the general laws which govern the economy, an exaltation of the vital properties commensurate with the important office they have to perform, in maintaining the growth of the system and perfecting the various organs. This state of plethora, when no disturbing circumstances interfere, is greatly under the influence of stated, septennary periods, developing and perfecting the different organs as they become necessary in the economy of the system. At seven months, for example, we see the first process of dentition showing itself in the child; at fourteen months the second; and at twenty-one months the third; at which time most children have the full number of milk teeth. We see, also, at times, during these periods, considerable aberrations from the regular order of things, as a want of balance in the circulation, irregular distribution of the nervous influence, and oppression of some im-

portant organ. Again, about the seventh year there seems to be a second revolution. The milk teeth are then removed, and a new set take their place; the mesenteric glands are more fully developed, and from that period to the fourteenth year, the development of the system is apt to progress healthily, unless great constitutional weakness exist, in which case these glands become diseased, and premature death is the consequence. In the south this is often the case. Children grow finely and promise well until about the sixth or seventh year, when they begin to decline and are carried off by tabes mesenterica, or some other visceral obstruction.

From the seventh to the fourteenth year, or the age of puberty, we witness nothing but the gradual growth of the child in stature and intellect; but about this period many highly important changes commence. Most of the great organs are perfected, and others are in progress towards maturity, making a demand upon the general capital exceeding that of any previous period. A rapid increase in growth commences, with increased susceptibility to the impressions of external agents, and an exhaustion of plethora in the tissues of supply, until about the approach of the next septennial period, when balance is established between them and the vessels of waste, and a state of the economy is the consequence similar to that in which man was originally formed. Although at the expiration of this latter period the organism may be perfect, and the system well balanced, yet from various causes, and particularly from the abuse of diet, drink, exercise, and sleep, and the excessive indulgence of the passions, the original excellence of the human organism has been lost, and a higher susceptibility at this period of our lives is awakened to various morbid influences.

After the third septennial period, so many additional causes are in operation, both moral and physical, that it becomes difficult to recognize the effects of the intervening periods until about the age of forty-two, when some failure generally begins to be visible in the animal functions. The individual becomes more intellectual; his ambition is now excited to the

highest pitch, and among studious men, if the passion be indulged, is apt to weaken the organic functions and lead to impaired health. Hence we see so many of our young men of promise, at the present day, the victims of dyspepsia, and other chronic diseases which make such frightful waste in this class of our society. I will only add, on this branch of my subject, fearing lest I should tresspass on the patience of the Society, that the life of man has been limited to a septennary period of three score years and ten, instances of longevity reaching beyond that age being only exceptions to the general rule.

Hoping that the preceding remarks will be sufficient to engage your attention to what I have yet to propose, I now proceed to treat of the second branch of my subject, to-wit:

Unnatural, or morbid plethora. This species I have divided into general and partial. At the expiration of the third septennary period, as has been observed, there ought to be a perfect balance between the tissues of supply and those of waste; but we often find that, from some cause, the vital properties of the former remain so exalted as to maintain the want of balance, and produce a deposit of more than the necessary amount of fat to answer all useful purposes, constituting what is termed obesity, the most simple form of disease arising from this general plethora.

We often see persons who have been brought up in a plain manner acquiring a competency, and then quitting their laborious habits and taking to a sedentary life, become suddenly corpulent, with the appearance of high health. But if you congratulate them on the change, they will tell you that they do not feel well. They are troubled occasionally with fulness of the head, or wandering pains in the abdomen or joints, evidently arising from the full habit, the result of the change in the mode of life. Many such persons I have seen suddenly taken off by some structural lesion, without any premonitory symptom.

This state of the system I have found exceedingly common in the South. The facilities enjoyed by the man of industry

and enterprise for growing rich in a short time are so great that he is often able to retire early in life from active business. He indulges freely in wine and the luxuries of the table; his excretions are not equal to the ingesta, and as a necessary consequence general fullness takes place, to relieve which he resorts freely to pills containing calomel as one of their ingredients. After a time these lose their effect, and beginning to feel more unwell, he applies to the doctor. He has now some pain in his shoulder or abdomen, with a soft tumor in the epigastric region just within the ilium, and slight soreness on hard pressure. What is it? His physician tells him it is "*liver disease;*" and as mercury is the specific, he must take calomel. He resorts to this Sampson, and as a large dose makes him feel better for the time being, the remedy must be repeated, whereby the liver is kept continually under the spur, until it becomes unable longer to resist its influence and structural lesions supervene, with dropsy of the belly as a consequence. I have often been consulted by persons laboring under this state of plethora, but have rarely been able, at first, to convince them that their disease was not one of the liver. From some experience in the treatment of such cases I am fully persuaded, that the liver is not diseased, and after a reasonable time I have generally succeeded in satisfying my patients of its soundness. What, then, is the matter, in such cases? I answer, the morbid condition is a general plethora, accompanied by complete engorgement of the cœcum, and I think the success of my plan of cure sustains this opinion. My first advice to such a patient is, to disgorge his pockets of the pills, and to quit his calomel—to disgorge his blood-vessels by the lancet, if any important organ seem to be threatened; and, finally, to disgorge his stomach and bowels, by strict abstinence, purgatives, or gentle laxatives, such as jalap or cream of tartar, calcined magnesia and the neutral salts, or magnesia and sulphur, by moderate exercise, and stopping his liquor. This course, if strictly adhered to, in a few weeks removes the plethora—the tumor and soreness in the abdomen give way, leaving a state of de-

bility, which a prudent increase of diet, with regular exercise, in a few weeks more, entirely overcomes. If the liver should remain sluggish under this treatment, and the stomach continue to be disturbed under vitiated secretions, a mild alterative course of the blue pill, with alkalies, and some of the bitter astringents, will set all right and perfect the cure.

Every experienced practitioner must have observed the supervention of a most dangerous form of plethora about the favorable termination of chronic diseases, increasing the susceptibility of the great organs to such a degree, that the sudden application of any disturbing cause leads to sudden death. Many such cases have I witnessed, in which, after a hearty supper, the individual has been seized with sudden disease and died almost without a struggle.

Another form of disease arising out of repletion, attendant particularly upon chronic affections, and also frequently succeeding hemorrhages, seems to depend upon general plethora, and is curable at its onset, but ultimately is apt to terminate in some local lesion of structure if neglected. This occurs, also, after important surgical operations. This general plethora we also often find in old persons. They generally increase the amount of their diet with age, use more animal food, at the same time being unable to take as much exercise. Their great organs, as a consequence, become less active, and are constantly threatened with congestions under every violent external cause. They die more frequently under the same circumstances, than young persons, and chiefly for want of prompt depletion, and disgorgement of the viscera, the plethora, giving rise to local oppressions, being unfortunately mistaken for direct debility. I might cite many other consequences of this form of plethora, but deeming the foregoing sufficient to illustrate the subject, I proceed to consider the second species with its multiplied and dangerous consequences.

In considering the numerous diseases which come on as a consequence of this condition of the system, or which are aggravated by its existence, I know of no better plan than to

take them in the order in which they occur in the different tissues, and as modified by the peculiar organization and vital properties of the tissues.

The first is the cellular tissue and the following are some of the affections which assail it:—phlegmon, carbuncle, furuncle, ulcers, anasarca, œdema, hemorrhage.

The next is the nervous tissue, which may be divided into that of animal, and that of organic life. It is of the first importance, and its diseases are more diversified and complicated than those of any other system. The diseases to which it is exposed are too well known to require a particular notice of them. Plethora is a frequent cause of them, and aggravates them whatever may be the cause which calls them into existence.

The vascular system, although simple in its functions, and subject to but few diseases, has nevertheless, a powerful influence in modifying the functions of the other systems. The veins and arteries are subject to inflammation, and the arteries to ossification, aneurism, contraction, and dilatation. The capillaries are most actively concerned in the various offices of the animal economy, and become involved in most of the diseases which assail the human body, plethora being the morbid condition by which they are perpetuated.

I might thus go on and speak of the exhalent and absorbent systems, of the osseous, the cartilaginous, the fibrous and the muscular systems, and of the mucous, serous, and glandular systems, with the disorders to which they are obnoxious; but I find that I must abridge these remarks, or I shall weary the attention of the Society. Plethora excited in any of these tissues becomes the cause of disease, and the great point in our treatment of them is to remove this morbid condition. I have said that, at birth, a natural plethora is a universal state, and this not being exhausted at the proper period, owing to accidental circumstances, the first care of the parent and of the physician ought to be to obviate the consequences of this failure. And this is to be done by a strict attention to the early physical and moral education of children, and by marriages

so directed as to counteract any predisposition to disease that may exist. What better can we expect, as the product of the connexion of a man whose thoracic or abdominal viscera are predisposed to disease, or whose glandular system is not healthily developed, with a woman equally deficient in the same organs, than a feeble offspring requiring the care of both parents and physician, struggling on to puberty, there to dwindle and die, just as the fears of friends were beginning to be lulled? Instances of this sort, unfortunately, are familiar to all practising physicians, and they are of a nature so withering to domestic happiness that every man should be warned by them, in forming marriage connexions, to look for a companion in whom this want of balance, this predisposition to disease, does not exist. The principle extends to all the organs and functions of the economy, equally the instinctive and the intellectual. A defect in any organ is likely to be perpetuated in the offspring of the individual, and is to be countervailed by the selection of a partner in whom the defect is not found.

The primary physical and moral education of children necessarily devolving on the mother, as a preventive of the evils which result from plethora, she ought by all the means in her power to promote the healthy development of every animal and natural organ, throwing it upon its own resources as early as possible, that by proper exercise of its weaker parts they may be invigorated and the organs of the whole system be brought to a healthy balance. Strict attention to diet, both as to quantity and quality, I consider essential to the healthy development of the abdominal viscera. It should be the constant care of the mother never to suffer the stomach to be goaded by too great variety, or by such quantity of food as, by the frequent over-distension of that organ, may induce gluttony, and impair both its secreting and muscular functions, and thus lead to dyspepsia, with all its wretched train of evils. Except the abuse of ardent spirits, I know of few excesses so productive of mischief, or even so demoralizing in its effects, as excess in eating. Show me an epicure who in-

dulges to excess in the luxuries of the table, and, as a general rule, you will find him a cold, calculating Shylock, destitute of every good feeling or sympathy, and bent only on his own profit or advancement.

By proper attention to diet and exercise during all the period of growth, I doubt not many of the deformities which we meet with might be prevented, and many operations for club-foot, strabismus, &c. be superceded. A vigor of constitution would also be imparted to the individual sufficient to sustain him under his intellectual labors, and prevent the many broken down constitutions which we daily see amongst the most promising men of our country. Permit me to relate two cases of congenital deformity which bear closely upon the subject under consideration: the first was that of a child with the patella in the ham. The nurse, in dressing it the second or third time after birth, discovered that it could not flex the left knee, which, on examination, was discovered to arise out of the cause alluded to. I was young in the practice, and the case was a novel one; but by bringing the dislocated bone around nearly to its place, and there confining it by a roller, I had the gratification of finding that nature overcame the defect, and that the child was put in possession of the perfect use of the limb. In the second case, a child eight or ten months old was subject to spontaneous dislocations of the shoulder. I ascribed the infirmity to a want of due antagonism between the flexor and extensor muscles of the humerus, and however false may have been my views of the pathology, the plan of treatment which I adopted in the case was entirely successful. The arm was drawn down to the side and kept in that position by means of a proper bandage, and the cold shower-bath applied to the shoulder, with frictions over the same part. The limb ultimately became strong and healthy under this treatment.

I will add, on the subject of the early education of children, that it equally concerns their happiness in life that a due balance be maintained between the various faculties of the mind. Much may be done by early culture to repress the strong and

bring out the weak, and the character of the individual may thus be greatly modified and improved. With but this glance at a subject possessing the deepest philosophical and practical interest, I hasten on to the last part of my subject—the indications to be answered in the treatment of partial and general morbid plethora, and the diseases which owe their origin to one or the other of these states.

General morbid plethora being that fulness of habit which arises from the want of balance between the tissues of supply and those of waste, necessarily implies either an exaltation in the vital properties of the former, or a failure of the latter to perform their functions. The first may be occasioned by excess of ingesta, causing oppression of the secreting organs and a failure in their functions. This form of general morbid plethora is the most simple, and points plainly to the proper treatment, viz: to lessen the ingesta both in quantity and quality; to avoid excitants; and, if danger of local congestions arise, to reduce the circulating mass either by general or local bleedings, and by occasional brisk purgatives. These, together with prudent exercise, aided by the recuperative powers of the system, will generally succeed in restoring the lost balance and in preventing the progress of the disorder to a more serious state.

The second form, or that arising from a failure in the function of the secreting organs, the tissues of supply not being inordinately excited, in most instances may be relieved by a mild alterative course of mercury, occasional gentle laxatives, and such specific remedies as excite the oppressed organ to more copious secretion. In the end, the preparations of iron may become necessary, with the bitter astringents, and in all cases, exercise, it must be remembered, is a remedy of the first importance.

Partial morbid plethora may arise from various causes, as sudden and violent impressions on the secreting tissues, or the frequent application of an agent which excites the system above the natural standard. If it be in a tissue not essential to life, the conservative powers of the system will remove it

by resolution, effusion, or healthy suppuration. But if it be a tissue involving extensive sympathies, with functions important to life, a focus of irritation is set up, other tissues become involved, and general constitutional derangement is, at length, the result, demanding a course of treatment which will subvert this general irritative fever, promote the various secretions implicated, and remove congestion and its consequences. A judicious modification of the plan already proposed will generally accomplish this end.

I trust I shall not be deemed presumptuous in expressing my belief that here lies the great practical error of most of the French pathologists. They overlook that intermediate state of plethora, and the morbid effects of the retained elementary principles of the various secretions, which generally exist for a given time after the impress of the morbid cause, before phlogosis actually supervenes. Pursuing a negative, expectant course of treatment, a remora in the circulation takes place, with congestion and its consequences, acute or subacute inflammation; the susceptibility of organs is lost to the impress of such therapeutic agents as might have thrown off the offending excretions, disgorged the oppressed viscera, and, with the aid of the *vis medicatrix naturæ*, cured the patient. They do not appear to have drawn the distinction between the mild irritative fever resulting from this intermediate state of plethora, and that modification of morbid action, the result of phlogosis, which necessarily oppresses the vital powers to a degree which would forbid any further excitation. The Society will pardon this digression.

I will now proceed to the consideration of a few of the diseases arising out of local irritation of the different tissues which most frequently require the physician's attention; and hope to show that, in at least a majority of such cases, the treatment which succeeds will go far towards sustaining the opinions here advanced respecting the agency of plethora in producing and perpetuating them. In the cellular tissue we have phlegmon, ulcers, anasarca, &c.; in the nervous, convulsions, disorders of the senses, hysteria, hypochondriasis,

&c. The vascular system is obnoxious to inflammation and its consequences, contraction, ossification and its effects. In the capillary division of this system we note over-distension, suspended secretion, absorption, &c. The mucous, serous, and glandular systems are all subject to diseases arising from a depression of their vital properties, and a consequent failure in their ordinary functions, and retention of the elementary principles of their specific secretions. Now, suppose phlegmon to arise in the first named tissue, do we not, in its primary stage, attempt its cure by resolution, in other words, by a course of treatment that will lesson the vascular fulness, remove local irritation, and thereby prevent congestion and its consequences? Who at the present day would attempt the cure of dropsical effusions, except by the judicious use of the lancet, such medicines as promote active excretion, and, in the sequel, such tonics as are fitted to restore the organs to their normal condition, and aid the recuperative powers of the system in removing all disposition to plethora? From the nature of nervous diseases, and their effects on the animal economy, I am forced to believe that plethora of the investing membrane at their origin, or in the neurilema, must exercise considerable agency in producing and increasing them; and although powerful stimulants and antispasmodics occasionally act promptly as palliatives, still we find that, as a general rule, in this class of affections, the only radical cure is to be found in reducing the tone of the vascular system by prudent venesection, in allaying nervous irritation by appropriate remedies, in the judicious administration of such alteratives as excite the oppressed organs to free secretion, and in a regulated diet, and appropriate exercise.

I might go on to remark on the diseases of the other tissues, but I have said enough to illustrate the principle, and shall not trespass on your patience any farther. Let me observe, briefly, that it strikes me as a sound proposition in our profession, that the course of treatment which cures most generally and most promptly, under given circumstances, is the best; and that safety and success in practice are stronger ar-

guments for the soundness of our theories than any which auscultation or post mortem examinations can supply. Not that I wish to disparage either of these valuable sources of information. The French pathologists have labored with a zeal worthy of all praise in these departments of medical science, and aided by the large institutions of Paris have thrown much light upon the changes in the human organism wrought by disease. But if they have not been rendered by the character of their researches too exclusive in their views, I am sure that the practitioner in this country, with limited opportunities for the use of the stethoscope and dissecting knife, is likely to be made so by depending too far upon the teachings of these instruments. He is apt to treat with contempt every fact and suggestion offered by those who have derived their knowledge at the bed-side, unless they happen to be in accordance with what he has been taught by his scalpel or stethoscope, and relies upon an expectant plan of treatment, confident that he will be able by post mortem dissections to verify his preconceived opinions.

In conclusion, I would remark that, in the treatment of disease, particularly in the Valley of the Mississippi, we should consider the system as a whole, duly appreciating the sympathies which subsist between all its parts, and avoiding the error of taking too limited or exclusive views in reference to the disorders by which it is assailed.

ART. II.—*Diaphragmatic Hernia.* By GEORGE W. BAYLESS, M. D., Demonstrator of Anatomy in the Medical Institute of Louisville.*

LOUISVILLE, Wednesday, June 2, 1841.

The committee on Post-mortem Examinations, Morbid Anatomy, and Pathology, beg leave to make this their first report; being an account of a case of Diaphragmatic Hernia, together with some remarks on that disease.

REPORT.

As one of the attending physicians of the Louisville Marine and Charity Hospital, a member of your committee was notified to attend a post-mortem examination of the body of John ——, on the 19th of September, 1840; and, upon dissection, there were found some morbid appearances which are deemed of sufficient interest to form the subject of a report to the Association. But before giving an account of them, we will briefly enumerate such facts in the history of the individual as have a bearing upon the subject, as far as they have been ascertained.

This man, a native German, was aged 35 years—was about four feet high—had a very large head—body of medium length and size, but chest large in proportion to the remainder, being prominent and expansive in front, and increased backwards by posterior curvature of the spine, while the lateral diameters were also considerable—lower extremities, thighs slightly, but permanently, flexed upon the body, probably in consequence of having been always a great-deal in the sitting posture, legs permanently bent almost at right angles upon the thighs, which was probably from a congenital contraction of the flexor muscles of the thigh, as he had been so from

*This paper was read before the Louisville District Medical Association, at its June monthly meeting, in behalf of the committee on Post-mortem Examinations, Morbid Anatomy, and Pathology.

birth: the lower extremities were also considerably atrophied, probably from non-use. His sister, who accompanied him at the time of his admittance, stated that he had been idiotic, had curved spine, and flexed lower extremities, from birth—that he had never walked, and it had always been necessary to carry him about; but that he had enjoyed rather robust health. From the time of his admittance, he remained altogether in his bed, sometimes in the sitting but mostly in the recumbent posture--was observed to be an enormous eater—that his bowels were habitually constipated, there being usually an interval of from eight to fourteen days between the time of his having an evacuation, which always consisted of an immense bulk of hardened fecal matter—but that his general health remained good, having only an occasional attack of dyspnœa, which was *slight* in its character, of from half an hour to three quarters in duration, and brought on by mental excitement, such as being irritated by his fellow inmates, but more frequently by rising suddenly in bed. The attention of the visiting physician was never called to him, and the resident students never made any examination in reference to the action of the heart. He never complained of pain in the thorax or abdomen, until he was attacked with dysentery, when there was only the pain that is usually attendant upon that disease, which was prevailing in the house at the time, and of which he died. It is deemed unnecessary, by your committee, to detail the facts connected with his last illness, as they relate only to the dysentery under which he labored, and have no bearing upon the lesions to which we would call your attention.

The examination was made twenty-nine hours after death. Upon laying open the abdomen to examine the bowels in reference to the disease of which he died, the stomach was observed to be out of its usual place; or rather, there was only a small portion of its pyloric extremity visible. Tracing it from this, we found it empty, and that almost the whole organ, which was of maximum size, had passed through a large opening in the diaphragm into the cavity of the thorax. The

opening consisted in an enlargement of the natural foramen for the transmission of the œsophagus, was circular in shape, fully two inches and a half in diameter, with its edges about a third of an inch thick. The peritoneum, as it covers the diaphragm, was reflected through the opening around its whole edge, passed vertically about four inches into the cavity of the thorax, thus forming a hollow cylinder of that length, and two inches and a half in diameter; and having reached that height, the membrane concentred upon the œsophagus, which was placed in the axis of the cylinder, and thence passed down it upon the stomach, and on to the other viscera. Thus was formed a *cul-de-sac*, in which the stomach was lying; but we should remark, however, that it was not perfectly cylindrical, for that it was enlarged above so as to make it somewhat balloon shaped. The peritoneum forming the sac, was thickened to about double of what it usually is. We found no lesion of any of the viscera of the abdomen, having any connexion with that of the diaphragm. Upon opening the thorax, the left cavity was observed to be somewhat smaller than the right, in consequence of the protruding stomach, which was found lying in the posterior mediastinum, trespassing slightly upon this cavity; but notwithstanding, it was sufficiently capacious to allow the natural function of the lung, which was in a normal condition. The right lung was adherent throughout almost its whole surface to the contiguous parts by old adhesions, and so firmly to the diaphragm as to require a very careful dissection to effect its separation. The stomach, (as has been observed,) with its containing peritoneal cul-de-sac, was lying in the posterior mediastinum, in the natural position of the œsophagus, inclining therefore to the left side of the spine, and infringing more upon the left than the right pleural sac. There was no perforation of either of the pleuræ; and at the base of the protruding peritoneal sac, for near an inch above the edge of the diaphragm, the left pleura, as it commences ascending to form the mediastinum, was separated from the peritoneum by only a thin layer of cellular substance; but above this a greater amount

of loose cellular texture was interposed between them. The protruding parts were not found to pass sufficiently high and to the left to offer any mechanical interference with the action of the heart, which was in a normal condition; but it will be recollected that we could gather no facts relative to the manner in which this organ discharged its duty.

Whether as mere coincidences, or as having a necessary connexion with those already described, we pretend not to say, but as occurring in like structures, your committee deem it right to mention briefly some lesions which were found in the head; and the condition of the spine to which the curvature was owing. In the first place, the bones of the head generally, but particularly those forming the vault of the cranium, were in a state of manifest hypertrophy, being in some places well nigh half an inch thick. On their inner surface, (especially the parietal and frontal bones,) were found a considerable number of exostoses, in the form of conical projections, about the fourth of an inch high, and the third of an inch in diameter at the base. In employing the term exostosis, we intend it to signify "a bony excrescence, similar in its structure to the osseous tissue in its normal condition," as it is defined by Professor Gross in his work on Pathological Anatomy. The dura-mater adhered with unusual firmness to the skull, but particularly to these projections. On the inner surface of the dura-mater were found a number of osseous deposits. These existed most abundantly in the falx cerebrum, along the superior longitudinal sinus; where they varied in size from masses of an oblong shape, an inch long and a half an inch wide, to mere points. There were some of them scattered throughout the whole of the falx major and tentorium; and wherever found consisted of very hard, white osseous masses, very rough on their free or cerebral surface, but smooth on that by which they adhered to the dura-mater. The distortion of the spine consisted in a posterior curvature, which was somewhat gradual between the first dorsal and last lumbar vertebræ, being greatest however at the middle of the dorsal, where the deviation from the natural position was about two inches and

a half. There was also an observable curvature to the right side. The bony structure of the column seemed to be in a perfectly healthy condition; but the intervertebral substance, in all the spaces included within the curvature, was deficient in its anterior part, and from the first to the eighth dorsal vertebra, the absorption was so complete as to bring the anterior edges of the vertebræ immediately into contact. This absorption or atrophy of the intervertebral substance, may have happened in one of two ways: either as an original, or congenital, mal-formation; or by atrophy of the erector muscles of the back, by which the parts in front of the spine would preponderate and cause the anterior portion of the intervertebral substance to be unduly pressed, and absorption result as a consequence. The former we think most probably true, as it was stated, by his sister, that the curvature existed from birth.

Your committee having thus given an account of this individual case, as briefly as was compatible with perspicuity, think that the infrequency with which this subject is brought before the profession, added to the fact, that it is unquestionably one of no little practical importance, from the incorrect diagnosis which is almost invariably made, and the equally erroneous, if not injurious, practice that is employed, when cases of the disease occur, we say, from such considerations, your committee think that it will not be altogether inappropriate to add some general remarks on the nature, varieties, causes, and symptoms of the disease. And in doing so, they trust that they will not be considered to trespass upon the time and patience of the society.

The disease may be defined to be, a protrusion of one or more of the abdominal viscera through a natural opening, deficiency, or wound, of the diaphragm, into the cavity of the thorax.

It may occur at any period, from fœtal existence to the termination of life; but from the cases mentioned and referred to by the authors whom we have consulted, and such as we have been able to collect from a large number of periodicals

we are induced to believe that the lesion, by which protrusion takes place, is congenital in by far the greatest number of instances. This probably happens from the inverted position which the fœtus generally assumes, whereby the pressure of the viscera of the abdomen may cause a protrusion, either by dilating some one of the natural openings of the diaphragm; or by causing a separation of its muscular or tendinous fibres, at some part where an uncommon laxity of them may exist: or, possibly. from some accidental pressure upon a particular part, by which the process of nutrition is prevented, and an unnatural opening thus produced. We merely throw these out as suggestions; being fully aware that the determining causes of malformations are enveloped in great mystery. The existence of even a large protrusion does not materially interfere with the well-being of the fœtus; for the function of respiration being not yet called into requisition, the mere mal-position of the organs could not affect its health and general development. In regard to the comparative frequency of its occurrence at different periods of *extra-uterine* life, we have not facts sufficient to justify an opinion, and authors are silent upon the subject. Spontaneous rupture is not apt to take place; because, from position, the forces which usually produce rupture in other parts of the abdomen cannot act with any effect upon the diaphragm. Indeed, during the period of existence alluded to, the disease arises almost invariably from wounds, and they may of course occur with equal facility at all periods, so far as the structures themselves are concerned.

Protrusion happens more frequently on the left than the right side of the diaphragm. This arises from the fact, that a kind of protection is given to the diaphragm by the liver, which lies in contact with the most of its right half, and which itself, from the extent of its surface, is not apt to protrude through any natural or unnatural opening which may exist. Instances however have occurred in which it has taken place on the right side. Sir Astley Cooper* refers to two

*On Hernia.

cases; in one, some of the "abdominal viscera had passed into the right side of the thorax;" and in the other, "the right extremity of the stomach, and beginning of the duodenum, a part of the omentum, and the arch of the colon" had passed into the right side, through an opening situated a little distance from the right side of the ensiform cartilage. Mr. Lawrence† also refers to cases in which the protrusion occurred on the right side. In one, a child that died shortly after birth, the whole liver had passed into the right side of the chest; in the other, "part of the colon, and nearly the whole of the omentum," had passed into the right cavity through an opening near the gall-bladder.

According to the division of Sir Astley Cooper, which is founded in nature, and we deem the best that can be made, there are three causes or varieties of this disease, as we have already intimated in the definition which we gave it, viz: first, where it results from malformation of the diaphragm, such as a preternatural opening; secondly, where protrusion takes place through one of the natural foramina, enlarged from whatever cause; thirdly, from wounds.

First of malformations. Not taking into the account those protrusions which take place from wounds, this variety is by far the most common. Why this occurs more frequently than protrusion through the natural foramina, it is difficult to say; for the reason that the determining cause of these lesions is wholly beyond our reach. We have already said that both of these lesions are much more apt to take place on the left than right side, and we assigned the most probable reason for it; and in regard to that under consideration, we may safely say that it occurs more frequently in the muscular than in the tendinous portion of the diaphragm. This may arise from a greater tendency to laxity, or to use better language, *atrophy*, of the muscular than tendinous structure; by which the same mechanical pressure, of the superincumbent viscera in the inverted position of the fœtus, would effect a hernia in the muscular, when it would not in the tendinous portion. For

†Treatise on Hernia. London, 1838.

it will be recollected that these lesions are of almost infinitely greater frequency in fœtal existence than afterwards; and in regard to the greater tendency to *atrophy* of the muscular than tendinous structure at this period, we are strongly supported by the analogy of its greater frequency in extra-uterine life.

In the variety of the disease which we are now considering, the unnatural opening may have a sac formed by the peritoneum and pleura; or these membranes may terminate at the margin of the opening by running into each other, and thus give it a rounded and smooth edge. The comparative frequency of these states is decidedly in favor of that in which the sac does not exist.

When an opening of this kind exists, whether supplied with a sac or not, a temporary protrusion may take place, of a greater or less amount of the abdominal viscera, according to the size of the opening, and the force causing the protrusion, bringing on such symptoms as will be mentioned in a subsequent part of this paper; and after a greater or less time, according to circumstances, the parts may return to their natural cavity, with a subsidence of all the symptoms. Or on the other hand, inflammatory action may be set up, and, if gangrene do not result, adhesions will be produced, and the parts retained in their unnatural position.

In illustrations of these several propositions, we might adduce a considerable number of cases, but we must content ourselves with a brief allusion to a few.

In the 9th volume of the Transactions of the Royal Society of London, Fothergill relates the case of a child that suffered from laborious respiration and disordered bowels up to the time that it was ten months old, when it was weaned; in six days after this it was seized with violent vomiting, which terminated fatally in twenty-four hours. Upon examination, a large portion of the stomach, the cœcum, a large portion of the ileum, and a portion of colon, were found in the left side of the chest; having passed through an opening which extended from the sternum and cartilages in front, down to the tendinous centre

of the diaphragm. We have already alluded to a case given by Sir Astley Cooper, in which some of the abdominal viscera had passed into right side of the chest, through an opening a little to the right of the ensiform cartilage. We must again refer to it, as it presents the interesting feature of a sac formed by the pleura and peritoneum, and which contained the protruding parts. In the 19th vol. of the Med. Chirurg. Rev. is an abstract of a case, by Cruvielhier, in the person of a female aged 75 years, rachitic, and for several years subject to temporary colics. She died labouring under the ordinary symptoms of hernia, attended with constant vomiting. The stomach, large intestine, and some portions of small intestine were found contained in "a sac," in the left side of the thorax. Another case is detailed at some length by Sir Astley Cooper, of a woman aged twenty-eight years, who had from childhood suffered pain in the left side, slight cough, and difficulty of respiration; and died laboring under symptoms of strangulated hernia. An opening was found in the muscular portion of the diaphragm, three inches from the œsophagus, circular in shape, two and a half inches in diameter, with the peritoneum terminating abruptly at the edge, which was smooth and somewhat thickened. The protruding parts (the arch of the colon, and nearly the whole of the omentum) were in a state of incipient gangrene; and the omentum adhered firmly to the edge of the aperture. In the Lancet for April, 1832, Mr. Edwards relates a very interesting case, of a "delicate female, of fine complexion, and exquisite symmetry, who had from infancy enjoyed imperfect health. She was subject to frequent attacks of dyspnœa attended with acute pain in the region of the heart. These came on suddenly, without any apparent cause, and went off as unaccountably." She married at the age of 22, and soon after became pregnant, when the attacks of dyspnœa became more frequent and of longer continuance; but by great care, she went on to full term. At this period, soon after feeling what she supposed to be labour pains, she had an attack of dyspnœa, which became much worse than usual, and after suffering considerably from vom-

iting, purging, and great prostration, she died in nine hours from the commencement of the attack. On examination, the arch of the colon, the omentum, and pyloric half of the stomach, were found almost filling the left pleura, compressing the lung against the mediastinum. The protrusion had taken place through an opening a little anterior to the cordiform tendon, the peritoneum and pleura terminating at its margin, which was bounded by a tendinous ring. There was, of course, no investing sac to the protruding parts, which were adherent to different points of the pleura, but not to the edge of the opening. They were also gangrenous. No lesion of the heart.

Besides these, as illustrating the same points, we might quote a case from the 27th vol. of the Med. Chirurg. Rev.—one from the 26th vol. of the Edinburg Med. and Surg. Journal—and one from the 14th vol. of the Philadelphia Med. Journal, together with several from Sir Astley Cooper and Mr. Lawrence. But those which we have noticed are sufficient for our purpose; and circumstances impose upon us the propriety of perhaps even greater brevity than we have used.

We next come to speak of hernia, as it occurs at *the natural apertures*. This is not only comparatively but absolutely of rare occurrence. And this fact gives strength to the suggestion which we made when speaking of malformations of the muscular portion, viz: that *atrophy* has not a little to do in the matter. For leaving this out of the question, we conceive that, in the fœtus, hernia would be much more likely to occur at the natural apertures, than by a mechanical separation of the muscular fibres, by superincumbent pressure, as some have supposed. Why this species of hernia occurs so rarely notwithstanding the favorable position which the fœtus assumes, we are not able to say; but Nature probably gives to these apertures a protection which we do not well understand. That it does not occur more frequently in extra-uterine life, is sufficiently plain; for the forces tending to produce rupture in other regions of the abdomen, here have to operate against the gravity of the parts to be thrust out. To

the fact itself, of its rare occurrence, we have the united testimony of the great barrenness of periodicals in such cases, and the opinions of the best authors upon the subject. Indeed in a very large number of periodicals which we have searched, we have not been able to find a single case of the kind related. Sir Astley Cooper and Mr. Lawrence, who have written the most extensive and systematic treatises on hernia, and who are the only authors, within our reach, who treat at all of *diaphragmatic hernia*, concur in the opinion that this variety is very rare. The former says that he never met with an example of it; and refers to but two cases, in Morgagni. In one of these, "part of the colon, a large portion of the omentum and pancreas" had passed through the opening for the transmission of the intercostal nerve. In the other, the duodenum, jejunum, part of the ileum, and omentum, had passed into the thorax through the opening which transmits the œsophagus. This occurred in a young man, who was suddenly attacked with severe pain in the region of the stomach, and vomiting of a great quantity of blackish matter, but whose previous history is not mentioned. The reference is also wanting in a statement as to whether the parts were contained in a sac; but from their great magnitude, compressing, as he says, the heart and lungs into a narrow compass, we suppose that no sac existed. The latter author (Mr. Lawrence) is silent in regard to his own experience, and we therefore think it fair to presume that he never met with an instance of it. He refers to but one case, in which his own mind was satisfied upon the subject; in that, the stomach and part of the omentum had passed into the chest, through the œsophageal opening. So far then as our research has extended, we have not been able to find a case on record precisely parallel to the one described in the first part of this communication.

Lastly, hernia proceeding from *wounds of the diaphragm*, will occupy our attention. In considering the comparative frequency of the varieties of the diaphragmatic hernia, we have not taken this last into the account; for as the same cir-

cumstances could not influence their production, we did not deem such a comparison entirely legitimate. In regard to the absolute frequency of the occurrence of this last, it is probably greater than would at first be supposed, from considering the position of the diaphragm in the body. Such wounds *might* happen in various ways, but they *have* happened most frequently from cutting weapons, such as swords and knives, and the fracture of ribs. Of course we say nothing of the comparative frequency of their occurrence in different regions of the diaphragm; for happening as they do, in every instance, from external violence, they may take place with equal facility in any part of it. But an abstract of some cases which we are enabled to present, will give a better idea of the nature and varieties of this accident, than any general remarks of our own.

In the "Revue Medicale" for July, 1823, Cloquet relates a case in which a man had his thorax compressed from before backwards by two carriage wheels. He died in thirty-six hours after labouring under great pain in the chest, difficulty of respiration, and accelerated and intermittent pulse. On examination, the soft parts of the walls of the thorax were not lacerated, but several ribs were fractured, and there was found a rupture of the diaphragm on the left side, extending towards the centre, through which the whole of the stomach, and most of the colon, had passed into the left side of the chest, greatly compressing the heart and lungs. In the 4th vol. of the Brit. and For. Med. Rev. is mentioned a case of a man who received an injury of the chest by falling from a great height, which brought on great pain near the sternum, dyspnœa, and respiration only on the right side—death following after a few days. The eight superior ribs of the left side were found fractured, and a laceration of the diaphragm, on the left side, to the extent of four or five inches, through which the stomach, half of the duodenum, spleen, transverse colon, and the edge of the left lobe of the liver, had passed into the left pleura. Sir Astley Cooper mentions a case which came within his own observation. It happened in

the person of a man, who fell from a considerable height, and received the shock of the fall on his back against the edge of a pump. He had great pain, and difficulty of breathing, violent vomiting and hiccough, and died in about nineteen hours. Several of the ribs of the right side were found fractured, the extremity of one of which had penetrated the diaphragm, producing a laceration of some considerable extent, through which a portion of the ileum had protruded, and become so strangulated by the edge of the muscle as to be in a state of incipient gangrene. He also mentions another furnished him by a surgeon in the British navy. A man fell, from the height of six feet, on his left side; soon after had nausea, vomiting, restlessness, difficulty of respiration, feeble and scarcely perceptible pulse, and obstinately constipated bowels, all of which increased until the fifth day, when he died. There was found a rupture of the tendinous part of the diaphragm, of near three inches in diameter, through which the stomach, and part of the duodenum, had passed into the left side of the chest. The stomach was greatly distended, and occupied almost the whole of the left pleura, greatly compressing the lung and heart. Mr. Lawrence quotes a case from the 10th volume of London Med. Gazette, of a man who was wounded by a broad pointed knife, which entered the left side, "between the fifth and sixth ribs, and penetrated to a considerable depth." A small portion of the left lung protruded through the external wound, was excised, and he recovered. From this time he suffered spasms in the region of the stomach, but was able to follow his occupation of steward on a ship, for several years. He was at length attacked with severe pain in the abdomen, attended with vomiting and constipation of the bowels; stercoraceous vomiting came on, and death took place in fifteen days, "under circumstances clearly indicating internal strangulation," says the author. An opening was found in the tendinous part of the diaphragm, through which the whole of the omentum had passed into the left cavity of the chest, the portion lying in the orifice of the diaphragm being firmly tied to it by old adhesions, while a por-

tion of the colon was embraced and "firmly constricted" by it.

We might, in addition, adduce several other cases, but think that these will suffice.

Having thus considered the three varieties of the disease, it only remains for us to say a word on the *symptoms* which usually attended it. Here we may abridge, by saying, that the ordinary symptoms of hernia, whether reducible or strangulated, attend protrusions of the abdominal viscera through the diaphragm. We have in addition, such a condition of things as would be supposed to result from the existence of a foreign body in the cavity of the thorax: such as pain, difficulty of respiration, and greater or less irregularity in the action of the heart. And notwithstanding Mr. Lawrence asserts that it is impossible to make out the diagnosis, yet we think that where an opening exists, by which some of the abdominal viscera may protrude temporarily, and return again to their natural position, producing all the symptoms of hernia, together with dyspnœa, &c. which subside again suddenly, and without any obvious cause, we say, these symptoms, together with the non-existence of any thoracic disease to which the dyspnœa could be attributed, would strongly point to the disease under consideration as the cause of the symptoms.

ART. III.—*A Case of Gun Shot Wound involving the Colon, Small Intestines and Right Kidney, attended by recovery:* Reported to the Medical Society of Tennessee, at its annual meeting in May, 1841: By JOHN W. RICHARDSON, M. D., of Rutherford County, Tennessee.

On the 26th of last November, I was called, in company with Dr. Watson, to visit Mr. K., a young man who had shot himself about 9 o'clock in the morning. On examination two hours after the wound was received, we ascertained that the ball, which weighed ℥iiss, had entered the abdomen on the right of the median line, and passed out about midway between the last rib and the sacro-iliac junction, immediately on the right of the spine.

Patient composed and very pale—abdomen natural—extremities cold—pulse regular and small—no hemorrhage. A plaster of simple cerate was applied to the wounds, and a poultice of wheat bran and ground mustard applied to the abdomen and right side, reaching even to the spine. A warm blanket was placed over him, and we awaited the consequences of the injury. At 2 P. M. he discharged nearly a pint of urine, the latter half of which was almost black with blood. At 4 o'clock, he passed urine again, but no more blood.

27th. Saw the patient at 9 A. M. Pulse 110, soft and small, though very regular while he is resting *perfectly quiet.* Abdomen becoming tense and swollen. Slept some during the latter part of the night. Complains much now of pain in the abdomen and back. Urine discharged regularly since yesterday evening, and of a healthy character. Gave two enemas, which were passed off very slowly without any fæces. Treatment the same, only discontinue the mustard. The poultices to be applied every six hours.

28th. Saw the patient at noon. Abdomen more tense and swollen, attended with considerable soreness and pain, which were greatly increased by the slightest pressure. Pulse 100, small though pretty firm. On moving him from his back to his

side, his pulse sunk and became weak and irregular. Slept some in the latter part of the night—great thirst—turning from his side to his back, or vice versa, produces great sickness and disposition to syncope;—rests easiest on his back, and easier on the right side than on the left. Gave an enema made of warm water and strong soap, which was discharged very slowly, with much flatus, but feculent matter. The discharge of so much gas afforded some relief, and I *thought* somewhat reduced the swelling and tension of the abdomen, but whether it really did so I am not certain. Urine discharged regularly. Ordered a tea spoon full of spts. nit. dulc. every two hours, and 12 drops tinct. digitalis every four hours; same dressing continued.

29th. Slept some since yesterday, though suffered very much with pain in the abdomen and back all night; pulse 100, regular, and perhaps not quite as firm as on yesterday; abdomen, if any difference, more tense and swollen; tongue coated with a white fur in the middle, the fore part and edges being clean and not redder than usual; thirst still very great. Same treatment continued.

30th Noon. Slept more; tension and swelling somewhat subsided: pulse 90; tongue as yesterday; eyes and skin quite yellow; great thirst; wounds beginning to slough. Continue the treatment.

Dec. 1st. Swelling, tension and soreness all subsiding; slept some; pulse 90, soft and regular; not so much thirst; skin and eyes still yellow; urine healthy and discharged at the usual intervals. The spts. nit. and digitalis partially discontinued. Same dressing continued.

5th. Patient has remained in pretty much the same condition since the first. Fur on the tongue whiter and longer; yellowness of skin and eyes has disappeared; urine still healthy. Same dressing continued.

6th and 7th. General condition improved. Poultice discontinued, as its weight produced some uneasiness, and the abdominal swelling had nearly subsided. Spts. nit. and digitalis also discontinued. Urine healthy and discharged regu-

larly. As he still seemed quite thirsty, I ordered a tea spoon full of cream tartar to a glass of sweetened water, to be taken as often as desired; a plaster of simple cerate to be kept over the wounds.

8th and 11th. Patient still improving; posterior wound nearly healed; anterior healing kindly.

12th. Enema given, which brought off a large, healthy feculent discharge, without any pain.

13th and 16th. Patient still improving; On the 16th my visits were discontinued, and on the 5th of January he rode home, a distance of four miles, and had, to all appearance, entirely recovered.

Remarks.—The patient ate his breakfast as usual; immediately afterwards had a large evacuation from his bowels, and returned to the house and shot himself. We were not able to trace the wound even into the abdominal cavity, a circumstance which I ascertained upon examination, after the failure, to have been produced altogether by a change of position. For I went to the spot where he was found upon the report of the pistol, and soon discovered that he was *sitting* when he shot, although he was found by the first attendant standing on his feet.

The ball entered the abdominal cavity one inch above a line drawn from the umbilicus to the anterior superior spinous process of the right ilium, and came out at the point before mentioned, viz: about midway between the last rib and the sacro-iliac junction; and I infer that it cut the colon the small intestines, and passed through the right kidney. This was my opinion at the time I first examined the case, and I have found no cause to change it. If the small intestines were very full, and the colon entirely empty, in some conditions of the body the colon might have escaped, though in the present case I think it did not. About two hours and a half after the injury, the patient threw up his breakfast but nothing else that I could discover. There was never any escape of gas, or feculent matter from the wound.

That the ball cut the kidney, I regard as positively certain. Its exit allowing it to have pursued a straight course in its passage, puts this point beyond dispute. And even if a doubt still existed, it seems that the *blood* discharged with the urine, in addition to the course of the ball, would dispel the doubt. The question might be asked, why was there no more blood discharged after the first urination? And *another* might be asked by way of answer, why, if the kidney was not wounded, was any discharged at all? and from whence did it come? But there can be no doubt that the blood did come from the kidney, the upper half of which was lacerated; and it is probable that a coagulum formed in the pelvis and prevented the entrance of any more into the ureter.

The treatment was of the simplest character; for the case was one of that class in which little is left for the surgeon or physician to accomplish. The patient was a young man in good health, and perhaps in as fine a condition to recover from such an injury as we can imagine. The dressing was simple, and yet seemed to be all that the case required. The pulse was of the kind we usually find in gun shot wounds, where the intestines are injured, and such as attends the wounding of the abdominal viscera generally. The extremities were cold; another circumstance always present in such injuries.

While our patient lay still and quiet, his pulse was quite firm and 100 in a minute, yet upon the least exertion it became feeble, soft and irregular. In all such cases, when any doubt exists as to the propriety of blood-letting, it is advisable that the patient be gently moved; even make him change his position in bed, and if the pulse assumes the character above noticed, bleeding would be injurious. At the time when the inflammation was progressing so rapidly I should perhaps have used local bleeding, but it was not practicable to procure leeches, and there was so much soreness over the whole abdomen that cupping would have increased, rather than mitigated the evils anticipated.

The condition of the bowels presents us with an impor-

tant principle in the treatment of such cases. Two enemas were given during the day after the injury, and one on the following day; yet no feculent discharge was produced. I then became satisfied that the lower bowels were emptied by the evacuation just before the injury was committed, and did not use the syringe any more until the 12th of December, seventeen days after the injury, when a copious and healthy stoool was produced. This course was adopted for the purpose of permitting the intestines to remain perfectly quiet, in order that nature might, if possible, repair the injury. The patient was not allowed any article of diet during his confinement, except milk, and apple water, or some such drink.

The yellowness of the skin and eyes on the 5th day produced some uneasiness, but in a short time it disappeared, and no appearance of biliary derangement was manifested, unless the condition of the tongue indicated it.

I cannot but believe that if V. S. to any extent had been practised, or the daily use of the syringe resorted to, a greater prostration of the vital organs would have been produced, and an irritable state of the bowels brought on, which would have placed the patient in a much worse, if not in a hopeless condition. The case, however, has taught me a valuable lesson; and that is, that in cases, when so little remains to be done, not to bring business on my hands by *doing too much;* nor to give remedies in anticipation of what *may* happen. In this case, we witness also the great restorative powers of Nature. Not an unfavorable circumstance, considering the extent of the injury, occurred from the first, and such as did appear were much milder than were to have been expécted; and some of the most alarming symptoms usually attendant upon such extensive injuries did not occur at all.

ART. IV.—*Cases of Wounded Arteries of the Arm, relieved by the Bandage:* Reported to the Medical Society of Tennessee, May, 1841. By Dr. GEORGE THOMPSON, of Jefferson, Tenn.

Case 1.—A young man received a wound from a long knife in the fore-arm. The knife entered about the middle of the fore-arm, and, passing obliquely upward, wounded the ulna artery just below the point of separation from the radical. The hemorrhage had been considerable, but was arrested by the application of a bandage around the arm above the elbow. In this situation he came to my shop, an hour after he had received the injury. A compress was laid over the course of the wound, and another over the brachial artery, at the point where that vessel could be most conveniently compressed against the humerus. A roller was then carefully applied from the points of the fingers to the shoulder, so tightly as barely to permit a sufficient quantity of circulation to maintain the vitality of the limb. Cold water was freely applied to the whole arm; he was put on light diet, with an occasional dose of epsom salts. I removed and re-adjusted the bandage daily, to satisfy myself that the limb was receiving no injury from it. In ten or twelve days the wound was healed. On removing the bandage the circulation was found to be carried on through the wounded vessel near the wrist as freely as before the wound was received. I could not satisfy myself that the canal of the vessel was not oblitered at the wounded point, from the depth with which it was covered by the integuments; but I am of the opinion it was not.

Case 2.—A young man passed a sharp pointed narrow knife under the tendon of the extensor muscle of the thumb, entering at the point where the radical artery passes under that tendon, wounding that vessel and passing out at the opposite side of the wrist. A compress was applied along the course of the wound, another on the vessel above the wound, a bandage was firmly applied to the hand and fore-arm, and the patient was left with instruction to let me know if the

bandage produced much pain. His hand becoming painful in the night, he had the bandage taken off and applied loosely. I heard nothing more from him for four or five days, when he came to me to examine his hand. On taking off the bandage, which was quite loose, I found the wounds in the skin healed, and a strongly pulsating tumor along the whole course of the wound. The compresses and bandage were again applied as at first. The bandage was now permitted to remain as I applied it, and in three weeks all traces of aneurism had disappeared, and the hand was soon restored to its original condition.

ART. V.—*Notes of a Singular case of fatal Abdominal Disease.* By Dr. J. J. POLK, of Perryville, Ky.

(The following clinical narrative was sometime since handed to us, by one of our newspaper editors, to whom it had been sent for publication in his paper. It is much to be regretted that a *post-mortem* examination had not been made.—*Eds.*)

T. Durham, aged 65 years, from his childhood enjoyed good health, with the exception of a few slight attacks of fever, their peculiar type being unknown. His occupation was generally that of a farmer; his frame large and robust. He complained occasionally, however, of pain in the region of the liver, which was from time to time treated by his medical advisers as a disease of that organ. In the month of October, 1839, he went, in company with two friends on a hunting excursion; and while enduring the fatigues of his favorite amusement, was seized with an acute pain in the right hypochondriac region. On his return home, he was bled to 16 ℥. which gave considerable relief; the pain, however, soon returned and medical aid was again called in. The disease was pronounced Hepatitis, and treated, by two physicians, with mercurial purges and a large blister over the part affected.

This only seemed to aggravate the symptoms, and a third medical adviser was called for, who supported the opinions of the two gentlemen in attendance; and a further attempt was made to reduce the supposed chronic enlargement of the viscus, by the remedies usually resorted to in such cases. The enlargement, however, went on at such an astonishing rate, as to induce the patient himself to doubt the correctness of the opinions of the gentlemen in attendance. The swelling, at this period occupying the whole of the space, between the cartilages of the false ribs and the crest of the ilium, and reaching below the umbilicus and far into the left hypochondriac region. His attendants, now believing that suppuration was taking place, applied emollient poultices for several days, the pain all the while being intense, with a constant cramp. In this critical state of things a fourth medical adviser was called in, who gave the opinion that it was not a disease of the liver; but an abscess, or a secreting sack, distinct from that organ, and advised an operation to evacuate its contents. The medical gentlemen, now augmented to five in number, met in consultation, and after examination, and a conference of several hours, in which many conflicting views and opinions were expressed, a vote of three to two decided to defer the operation and institute an active course of purgation. After two days, however, the sufferings of the patient became so great, that he demanded an operation, which was performed, with a common trocar. Being introduced about two and a half inches to the right of the umbilicus, there issued from the orifice sixteen pints of a dark grumous fluid, which deposited no sediment on standing, and was about the consistence of New Orleans molasses. Its properties were not tested. The patient's sufferings were gone with the evacuation of the sack, and his general health began to improve; but in two weeks it became necessary to repeat the operation, and it continued to be repeated at shorter and shorter periods to the eleventh operation; the last of which were performed with the common abscess lancet, and the aperture left open for the purpose of drawing off the accumulating fluid at pleas-

ure. After one of the operations, a leaden canula was left in the orifice, under which, however, there was a constant disposition to cough. The pulse became accellerated, and the patient seemed to sink rapidly. The sack was now injected with common tea, without any good effect. Subsequently, injections of weak ley were used, and lastly of tincture of Myrrh, which seemed, in a slight degree, to change the activity of the secreting surface. After the first operation the fluid drawn was frequently tested, and found to be composed principally of albumen and water. For more than three months the sac was evacuated twice in twenty-four hours, and finally three times every twenty-four hours. Frequently, when the sack was distended, there was an œdemetous state of his legs, particularly the right. His appetite was generally good, and his tongue natural, except some fissures on the middle portion. His bowels were always obedient to active cathartic medicines. Towards the close, his lungs became deeply affected, and a quantity of pus was expectorated. He seemed to sink under the combined influence of a pulmonary disease, and a severe strangury which at length supervened. During the six months that elapsed from the time of the first operation, five hundred pints, or about sixty-two gallons of the fluid described above, with occasionally a small quantity of pus, was abstracted. No *post-mortem* inspection was made.

REVIEWS.

ART. I.—*Brief Sketch of the Life and Services of John Hunter:* Condensed from his Biography by Drewry Ottley. London.

The lives of eminent Medical men constitute important epochs in the history of Medicine. The physician possessed of a proper degree of professional pride should not be ignorant of Medical biography, for although it may be admitted that, in a practical point of view, such knowledge is of secondary importance, yet we regard it essential to an accomplished Medical education.

That it is a neglected branch cannot be denied. Every practitioner of medicine has doubtless heard of Hippocrates, Galen, Sydenham, Cullen, or Rush; but how many can give any thing approaching an accurate account of their lives and services? Alas! Not one in fifty.

This ignorance, we think, is inexcusable. The literature of our profession is a deeply interesting and useful study, and we know that it is easy of acquisition. Further, we cannot doubt that a more extended acquaintance with Medical literature would serve to improve the profession both in a social and scientific aspect. One of the greatest hindrances to the elevation of our character as a body, is that sectional prejudice, which we regret to say, too often developes itself in the deportment and writings of the leading members of the pro-

fession. This is decidedly injurious. One common interest should bind us together, be we residents of Maine or Louisiana, London, Paris, or Calcutta; and among the means calculated to preserve our unity, that of which we are speaking stands pre-eminent.

We propose giving a brief account of the life and services of one of the most distinguished medical philosophers of modern times, and we shall be gratified if our effort shall incite any one to a more thorough inquiry.

John Hunter was born at Long Calderwood, a short distance from Glasgow, on the 14th of February, 1728. At the age of ten he lost his father, and having a very indulgent mother, was permitted to engage, without restraint, in all the frivolities of boyhood. His early education was neglected. Indeed it seems that Hunter, in his younger days, had little or no inclination to confine his attention to books. He was fond of sporting in all its varieties, and of anything in which he could display manual dexterity. It was a source of great regret to Mr. Hunter in his after life, as well as to his many friends, that he had neglected instruction in his tender years; and it is certain. that nothing but the force of insuppressible genius aided by a lofty and an honorable ambition, could have sustained him under the many difficulties which he necessarily encountered.

At the age of twenty he left his native place and repaired to London, where he put himself under the care of his brother, Dr. William Hunter, whose well earned fame was spreading far and wide, and whose high standing seemed to give a new and vigorous impulse to the mind of John.

After entering upon his duties as a pupil, "no long time elapsed before his skill was put to the test in preparing for the lecture a dissection of the muscles of the arm. It is probable that William Hunter had not as yet formed a very high estimate of his hitherto idle brother, and little foresaw that he was ere long to eclipse his preceptor. He was, however, so well pleased with his pupil's first essay that he soon after intrusted him with a similar part, of which the bloodvessels

were injected. In this the young student again succeeded so well as to obtain much praise for his dexterity from his brother, who foretold that he would soon become a good anatomist, and promised that he should never want employment. From this time, therefore, we may consider Hunter as engaged in the dissecting room, under the instruction of his brother's assistant, Mr. Symonds, where he pursued his studies with such zeal and diligence, that by the next session he was able to take charge of directing the pupils in their dissections."

About eight months after his arrival in London, by the exertion of his brother William, he gained admittance as a pupil at the Chelsea Hospital, under the celebrated Cheselden, who at that time was perhaps the first surgeon in the world. Here he attended during the summer months of 1749–50, while his winters were occupied in dissecting for his brother. In 1751 Cheselden resigned his office in consequence of bad health, and Hunter entered at St. Bartholomews under the direction of the distinguished Pott. Here he remained but a short time, but was regular in his attendance, and doubtless imbibed many useful principles from his great instructor.

At the death of Cheselden, in 1752, Pott soon placed himself at the head of the Surgical profession in Great Britain. He was the first surgeon in the United Kingdom who renounced the old absurdities of the art, and based his practice upon anatomical facts and physiological principles. But his student was destined to eclipse him, as will appear in the sequel.

In 1754, Hunter, having determined to devote himself to surgery, entered as surgeon's pupil at St. George's Hospital, where he attended regularly in the summer, while, as usual, he devoted himself closely during the winter months to his dissections. Two years after his entrance here, he served in the capacity of House surgeon, to the entire satisfaction of the attending surgeons, and to his own great advantage. "Hunter's extensive acquaintance with anatomy was now generally known and appreciated, and he was not unfrequently applied to by others to assist them in clearing up some

difficulties they might encounter in their researches. It was on an occasion of this kind, and about this time, that the important discovery of the mode of connexion between the placenta and the uterus was made. The honor of solving this anatomical problem was laid claim to by each of the Hunters, and the dispute to which it gave rise, twenty years afterwards, caused a breach between them that was never healed until William was on his death bed, and scarcely it would seem in his mind even then."

Hunter in this year became connected with his brother in his anatomical school, and delivered a part of the lectures. As a dissector, he was, without dispute, superior to his brother, but as a lecturer William was infinitely superior to John. In truth John Hunter never became popular as a lecturer. His style was course, and his manner uncouth; and it is a remarkable fact that, notwithstanding the eminence to which he attained in his profession, he never attracted a large audience to his lecture room. Among his earliest contributions to anatomy and physiology, were dissections, observations and experiments, illustrating the office of the lymphatics—the descent of the testis in the fœtus, and the ramification of the olfactory nerves upon the lining membrane of the nose. These, together with a great number of beautiful anatomical specimens, were made between the years 1754–59, after which, his health becoming impaired, he applied for an appointment in the army, and was accordingly made Staff surgeon.

"Notwithstanding his constant employment in the practical duties of his profession whilst in the army, Hunter found time to pursue those physiological researches in which he took supreme delight. He made several experiments on lizards and snakes to ascertain whether digestion continues during their torpid state; and he was also engaged in some inquiries on the faculty of hearing in fishes. It was during these campaigns too, that most of his observations on gun shot wounds were made, and that many of the peculiar views which his work on inflammation unfolds, first suggested themselves to his mind, though they were not published until more than

thirty years afterwards, as he constantly aimed, during his whole life, to confirm and amend them, and to build them up into a work on which his future fame should depend."

"In 1763, peace having been proclaimed, Hunter accompanied the forces home, and on arriving in England returned to the metropolis."

We come now to an important era in the life of this distinguished man—a period when his talents and fortitude were called in daily exercise in order to sustain him under many trying difficulties. Many circumstances conspired to render it necessary for him to undergo a tedious probation. His income was narrow, and he was obliged to live in rather a retired manner. A number of able surgeons already occupied the field, among whom were Pott, Bromfield, Sir Cæsar Hawkins, Sharp and Warner. Hunter's manners were any thing but prepossessing; in truth, he was rude, undignified, and what was still worse, addicted to profanity. Add to these his deficient elementary education, and we may readily conjecture what was the fact—his slow progress to celebrity. But he was unceasing in his devotions to his favorite pursuits. He was not content with resting upon the knowledge of the anatomists and surgeons who preceded him. His restless spirit and searching intellect sought for a better exposition of the curious operations of the animal fabric than had ever been given. Accordingly we find him engaged in the study of comparative anatomy and physiology, morbid anatomy and surgery.

Shortly after his location in London, he commenced delivering lectures on surgery and anatomy, which he continued for several years. It is remarkable, however, that his auditors never amounted to twenty. But he was not to be discouraged at the sight of empty benches. His zeal increased with obstacles. The charnel house was his home. He cared not for lecture room eloquence, or for elegant acquirements of any kind whatever. He had projected a most magnificent scheme, and he was resolved to devote himself unremittingly to its consummation. This scheme was no other than the

formation of the vast museum which now bears his name, and which, without dispute, is superior to any collection of the kind in the world. His time and money were completely invested in the enterprize. It was the darling object of his head and heart, and the records of science no where exhibit such an instance of enthusiasm as was displayed in the prosecution of this gigantic work. "Sir Everard Home used to state, that as soon as he accumulated fees to the amount of ten guineas, he always purchased some addition to his collection. Indeed he was not unfrequently obliged to borrow of his friends when his own funds were at a low ebb and the temptation was strong. "Pray George," said he one day to Mr. G. Nicol, "have you got any money in your pocket?" Mr. N. replied in the affirmative. "Have you got five guineas? because if you have and will lend it to me, you shall go halves." "Halves in what?" inquired his friend. "Why halves in a magnificent tiger which is now dying in Castle street." Mr. Nicol lent the money and Hunter got the tiger."

In addition to his labors in Zoology, Hunter was sedulously engaged in surgical and pathological researches, and without detriment to other men, we may truly affirm that he is to be regarded as the father of modern surgery. All who are acquainted with his work on the blood, and his views upon inflammation, will at once see the justice of this remark.

In 1767 he was elected a fellow of the Royal Society. In the same year he ruptured his tendo-achillis, and the circumstance afforded him an opportunity for investigating the manner in which divided tendons unite. He cut the same tendon in dogs, and found that union took place as in fractured bones where the skin is not wounded.*

In 1768, at the age of 40, he was elected surgeon of St. George's Hospital, and shortly afterwards he was chosen a member of the Corporation of Surgeons. "By his election to

*It is singular that Hunter should not have devised the operation of Tenotomy for Club-Foot and other distortions. He was certainly the first surgeon who fully demonstrated the fact, that divided tendons will reunite, (a point which had been long denied,) but it was not until seventeen years after Hunter's experiments that Tenotomy was undertaken.

the hospital he was ensured the means of making his talents as a surgeon more generally known, and was enabled to obtain as private pupils, on advantageous terms, young gentlemen coming to town to complete their medical education. * * * Amongst those who successively became inmates of Hunter's house, as private pupils, were Dr. Jenner, Mr. Guy, Mr. Kingston, Dr. Physick, and Sir Everard Home."

In May, 1771, he published the first part of his work on the Teeth, containing a description of those organs in their natural state, and in 177– he published the second part, giving an account of their diseases. In this year ('71) he was married to Miss Home, Sir Everard's sister, to whom he had been engaged a number of years, and with her he lived pleasantly until his death notwithstanding their habits were somewhat uncongenial.

In 1772, five years after his election as a fellow of the Royal Society, Hunter presented, for the first time, a paper before this body on the digestion of the stomach after death, which was published in the Philosophical Transactions. Shortly after this he presented another paper to the same body giving "an account of the electric organs of the Ray, and pointed out the vast nerves with which they are supplied, as the probable source of their peculiar power."

In the autumn of '72, he delivered a course of lectures on the principles of surgery. We have before observed that Hunter was a poor speaker. He had an aversion to public speaking, insomuch that he was in the habit of taking laudanum a short time before his lecture hour. "His language, though forcible, was inelegant and often coarse; his delivery was heavy and unengaging, as he rarely raised his eyes from his book; and as, in addition to this, the doctrines he taught were new and often obscure and theoretical, his hearers were never numerous."

As an instance of his coarseness, it is related by his biographer (Ottley,) that in speaking of a case of gun-shot wound, he described the ball as "having gone into the man's belly and hit his guts such a d—d thump that they mortified."

Hunter's philosophy, as exhibited in his lectures and papers for the Royal Society, was strictly Baconian. He paid little or no regard to mere opinions. He had little respect for speculations and theories no matter by whom projected. His book knowledge was limited. He observed closely, and drew all his inferences from visible, tangible facts. He never allowed himself to rest contented with a superficial examination of any subject. His productions always evinced depth and comprehension of research. Originality was displayed in every sentence he wrote, in every lecture he delivered.

"Hunter's increasing professional avocations began to render it impossible for him to devote as much time as he wished to extending and perfecting his collection. The field of his labors too was considerably increased on the one hand, by his opportunities for the cultivation of morbid anatomy, which his connexion with a hospital and his increasing private practice afforded him; on the other, by the augmented stores of rare and curious specimens of the animal kingdom which the kindness of his friends, and the liberality of scientific men, continually accumulated on his hands." He was, therefore, under the necessity of engaging a gentleman to assist him in his labors. Notwithstanding this he was incessantly devoted to his studies and dissections.

"He commenced his labors in the dissecting-room generally before six in the morning, and remained there until nine, when he breakfasted. After breakfast he saw patients at his own house until twelve, when he made it a point to set forth on his rounds, even though persons might be in waiting for the purpose of seeing him. He dined at four and was a very moderate eater. After dinner he was accustomed to sleep for about an hour, and his evenings were spent either in preparing or delivering lectures, in dictating to an amanuensis the records of particular cases of which he kept a regular entry, or in a similar manner committing to paper the substance of any work on which he chanced to be engaged." He continued his labors until one or two o'clock in the morning, long after his family had retired.

In the early part of '75, Hunter presented an able paper to the Royal Society, on animal and vegetable heat, demonstrating "that living bodies possess a power of maintaining their heat against the influence of external cold, and this in proportion to their rank in the scale of organization."

In 1776 he was appointed Surgeon Extraordinary to the King. In the same year, at the solicitation of the Humane Society, he prepared an essay on the means to be employed in the resuscitation of drowned persons.

"He also commenced this year a series of six Croonian lectures on muscular motion, which he had been appointed by the Royal Society to deliver."

About this time he commenced a correspondence with Jenner, who had been one of his favorite pupils. Jenner had settled at Berkley, where he made the splendid discovery which has conferred upon his name an enviable immortality. He took great delight in assisting his illustrious preceptor in the prosecution of his labors, in return for which, Hunter gave him his advice in relation to any difficult case on which he might be consulted.

The following letter will afford an example of Hunter's epistolary style of writing, as well as the blunt, coarse manner he had of delivering his opinions.

"Dear Jenner:—You must think me very fond of fish, when you send me cheese as much fishified as possible; however, it is an excellent cheese and every country has laid claim to its birth.

"I have but one order to send you, and that is, to send me every thing you can get, either animal, vegetable, or mineral, and the compound of the two, either animal or vegetable, mineralized.

"I would have you do nothing with the boy but dress him superficially; these funguses will die and be damned to them, and drop off.

"Have you large trees of different kinds that you can make free with? If you have, I will put you upon a set of experiments with regard to the heat of vegetables.

"Have you any eaves where bats go to at night? If you have, I will put you upon a set of experiments concerning the heat of them at different seasons. I should have been extremely happy to have had a visit from Lord Berkley.

"Ever Yours, JOHN HUNTER."

This correspondence with Jenner was continued until the close of the year 1790, shortly before Hunter's death. It related almost entirely to enquiries concerning the habits of a number of animals, such as the cuckoo, the bat, the hedgehog and the porpoise; and in ascertaining their instincts and customs Jenner was of great service to his old preceptor.

Perhaps the most interesting experiments in which Jenner took part, were those relating to animal heat. Hunter's several papers on this subject were very valuable. The following letter relative to this topic, evinces an ardent desire for accurate knowledge, together with a restless spirit, which could only be satisfied by the information afforded him by his friend and pupil.

"Dear Jenner:—* * * * I have received the hedgehogs. If you have time, see their natural winter haunts, and in very cold weather run the thermometer into the anus, and observe the heat; then open the belly by a small hole, and pass the thermometer down towards the pelvis, and observe the heat; then towards the liver and diaphragm and observe the heat: you may do all this in a very few minutes. Observe the fluidity of the blood, by comparing it with another that has been kept warm for a few days. * * * * * I have seen your old master who has given me the use of a very curious bone. I hope he will give it me altogether.

"Dear Jenner, yours,

"*Nov.* 23. JOHN HUNTER."

In 1779 Hunter presented his celebrated paper to the Royal Society, on the hermaphrodite of black cattle, or the free martin, containing not only a description of these singular an-

imals, but observations on hermaphroism in general. In the same year he presented two other papers; one containing an account of the transmission of small pox from a mother to her fœtus in utero; the other on a peculiarity of the hen pheasant, the change of her plumage to the color of the cocks after the cessation of breeding.

In 1781 he was elected a member of the Royal Society of Belles Lettres at Gottenburg.

"In 1782 he completed his series of six Croonian lectures on muscular motion, in which he unfolded many novel and ingenious views respecting the causes of motion in vegetables and animals, and on the various modes of progression employed by the latter in swimming, flying, leaping, running, &c."

In 1783 he was elected a member of the Royal Society of Medicine and the Royal Academy of Surgery of Paris. The same year he built his museum, which cost him about fifteen thousand dollars. This sum, however, is small in comparison to the cost of his specimens which at one time were estimated by Hunter himself at *three hundred and fifty thousand dollars!* During the same year he also assisted in forming the "*Society for the improvement of Medical and Chirurgical Knowledge*," which continued in existence about twenty years, and numbered among its members some of the brightest ornaments of the British profession. Before this society Mr. Hunter read a number of papers which were characterized by great research and originality of thought. Among others we may mention his "observations on the inflammation of the internal coats of veins;" his papers on "Introsusception," and on "Aneurism," and his "Experiments and Observations on the growth of Bones."

Hunter was the author of the operation for the cure of aneurism, which consists in tying the artery at a distance from the tumor, between it and the heart; and notwithstanding many efforts have been made to award the merit of this device to French surgeons, we believe it is now universally conceded that all the credit is justly due to Hunter.

"In 1786, in consequence of the death of Mr. Middleton, Hunter was appointed Deputy Surgeon General to the army. In the early part of the same year, he published his work on the *Venereal Disease*, which had been long expected by the public, and which met with a rapid sale. On this work Hunter had bestowed great pains, and before publication he submitted every part of it to a committee of his friends, consisting of Sir Gilbert Blane, Dr. Fordzee, Dr. David Pitcairn, and Dr. Marshall." This work of our distinguished surgeon is still held in high estimation, and with the annotations of George G. Babington, surgeon of St. George's Hospital, forms, perhaps, the best text-book on the subject at the present day.

"Towards the end of this year he published also his work on the Animal Economy, consisting chiefly of a collection of his most important papers in the Philosophical Transactions, to some of which he has made considerable additions.

In 1787 Hunter presented two papers to the Royal Society; one designed to prove that the wolf, jackal and dog, are animals of the same species; the other upon the anatomy and physiology of the whale, upon which he had spent much time and money.

The ardent desire of Hunter to obtain rare specimens was well exemplified at the time of Obrien's death. This famous Irish giant had been for a long time in a declining state of health, and Hunter sent his man, Houison, to watch for his exit and, if possible, obtain his body. Obrien heard of their manœuvering and left strict orders to have his body watched until a leaden coffin could be made, in which the corpse was to be enclosed, and the whole sunk in the sea. Accordingly upon his death watchers were set, but Hunter himself succeeded in bribing them by paying the sum of *five hundred pounds*. The skeleton of Obrien now stands at the head of the osteological division of the Hunterian Museum.

"The Royal Society this year ('87) conferred on Hunter the Copley medal, as an honorable testimony to the importance of his discoveries in Natural History. He also received, at the same time, another mark of the estimation in which

his labors were held by being elected a member of the American Philosophical Society.

Upon the death of Pott in December, 1788, Hunter was, by universal consent, placed at the head of the surgical profession in England. His health had been delicate for some four or five years. He suffered at times with a singular affection of the heart and arteries, attended with syncope and spasmodic twitchings of the muscles of the face, arms, chest, and stomach. This contributed to the aggravation of a naturally irritable temper, until at length it became so indomitable that, when under a paroxysm, he was utterly unfit for any social or professional duty.

"In 1792 Hunter contributed his last paper to the Philosophical Transactions. This contained the results of his observations on the hive bee, continued, with various interruptions, during a period of twenty years."

Shortly after this he transferred his lectureship to his brother-in-law, Sir Everard Home. To him also he committed his manuscripts which it appears were destroyed, and in all probability by the hand of this gentleman, who, doubtless, after committing extensive plagiarism upon the works of his great master and brother-in-law, endeavored to conceal his crime by demolishing the original. After this transfer, Hunter commenced the publication of his work on Inflammation and Gun Shot Wounds, which did not get through the press until after his death. Commendation of this work is unnecessary at this late day. The dissemination of the views contained therein created a new epoch in Surgery, and from that day to the present, this branch of our profession has made a steady and rapid advancement.

In the early part of '93 some difficulty occurred between Mr. Hunter and his colleagues of St. George's Hospital, respecting the fees of pupils and their admittance into the institution. On the 10th of October the board of Governors met to take the matter into consideration, when Hunter appeared before them laboring under great mental agitation. "In the course of his remarks he made some observations which one of his

colleagues thought it necessary instantly and flatly to contradict. Hunter immediately ceased speaking, retired from the table, and struggling to suppress the tumult of his passion, hurried instantly to the adjoining room, which he had scarcely reached, when, with a deep groan, he fell lifeless into the arms of Dr. Robertson, one of the physicians of the hospital who chanced to be present." This put an end to the meeting, the board immediately passing a resolution to defer the matter for future consideration.

"The body was examined after death, when the viscera of the belly and head were found loaded with blood, but otherwise in a natural state, with the exception of the carotid arteries and their branches within the skull, which were in parts thickened and ossified. In the chest the left lung had become attached to the costal pleura by old and firm adhesions; but the heart was found to be the chief seat of disease. The pericardium was unusually thickened, but did not contain much fluid. The heart itself was small, appearing too little for the cavity in which it was contained; its diminished size being the result of wasting, and not of strong contraction of its fibres. Two opake white spots were seen on the left auricle and ventricle. The muscular structure of the organ was pale and loose in its texture. The coronary arteries had their branches, which ramify through the heart, converted into long tubes, with difficulty divisible by the knife. The mitral valves were much ossified. The aorta was somewhat dilated, its valves thickened and wanting pliancy, and the inner surface of the artery was studded with opake and elevated white spots.

"Hunter's body was interred in a private manner, in the church of St. Martin-in-the-Fields, accompanied by a few of his medical friends." He died in his sixty-fifth year.

"In person he was about the middle stature, of a vigorous and robust frame, and free from corpulency; his shoulders were high and his neck short. His features were rather large and strongly marked, his eyebrows projecting, his eye of a light color, his cheeks high, and his mouth somewhat under-

hung. In dress he was plain and gentlemanlike; and his hair, which in youth was of a reddish color, and in his latter years white, he wore curled behind."

In his will Hunter expressed a desire that his Museum should be offered first to the British government, and in case they should refuse to purchase it, he directed it to be sold to a foreign state, as his executors might deem advisable.

After several ineffectual attempts by a number of influential persons to lay the subject before Parliament, it was at length brought before that body in June, 1796, when they agreed to appropriate 15,000*l* for its purchase; a paltry sum indeed for such a magnifiicent collection. The whole was then offered to the College of Physicians, but they declined accepting it, and it was then accepted by the Corporation of Surgeons on very favorable terms.

This museum contained, at the death of Hunter, some 15,000 specimens in anatomy, human, comparative, and morbid; arranged in excellent order, so as to illustrate the science of life, and the body in a state of disease. It has been considerably increased since it passed into the hands of the College of Surgeons, and it will stand in the metropolis of England a monument of the mighty genius and industry of its illusirious founder. W. J. B.

Cincinnati, 1841.

BIBLIOGRAPHICAL NOTICES.

I. *Transactions of the Medical Society of the State of New York.* Vol. v.

To express our opinion of the present number of these Transactions, it is perhaps compliment enough to say, that it is not less replete in valuable matter than any which have preceded it. The leading article is the "Annual Address," on In-

flammatory Fever, by Sumner Ely, M. D., President of the Society. There is besides, a paper on the Nervous System, by Dr. Davis; one on Ergot, by Dr. J. B. Beck; one on Aneurism, by Professor Portal, of the Royal University of Palermo; and one on Hereditary Diseases, by Dr. Haynes. There is also an appendix, containing an abstract of the proceedings of the Society at its annual session, which was held in February, 1841; a list of officers of county societies; several legislative documents; and the regulation of Medical fees, by the Superintendents of the poor.

Our limits will not permit any thing like an opinion of each individual paper above enumerated; and of Dr. Beck's observations on the use and abuse of Ergot, which we have transferred to our columns, we need hardly add that we think we cannot better subserve the interests of the profession in the West than by laying it before them.

II. *Twenty-fourth Annual Report of the state of the Insane Asylum at Frankfort, near Philadelphia.*

We received sometime since this report, but, by an accident, it was lost before we had the pleasure of reading it. We will add, however, that we have seen very favorable notices of it in several of our exchange journals. Dr. Earle, the resident Physician, has rendered himself very favorably known to the profession, by his labors for relieving and mitigating the condition of the Insane.

Selections from American and Foreign Journals.

Observations on Ergot: By John B. Beck, M. D., Professor of Materia Medica and Medical Jurisprudence in the College of Physicians and Surgeons of New-York.

In the whole range of the materia medica there is no article more interesting in its effects on the human system than ergot. Given during labor, it possesses the curious property (possessed by no other substance that we know of,) of exciting uterine action, and facilitating in a most extraordinary manner, the whole process of delivery. Upwards of thirty years have now elapsed since its introduction into general practice in this country; and during portions of the same period, it has been extensively used in Great Britain and on the continent of Europe. After such ample experience, we should naturally suppose that every thing in relation to its action would be completely established. Such, however, is not the case. Several important points are still under dispute, and it is upon these that it is proposed to make a few observations in the following paper.

I. By some it is *denied that ergot possesses any such property as is generally ascribed to it.* On this point it would seem hardly necessary to say any thing. Whether ergot does or does not possess such property, is a question which must be decided by the observations and testimony of those who have used it, and the mass of recorded as well as unrecorded evidence which we possess on this subject, is so abundant, as one would suppose, would be sufficient to preclude all doubt.*

*Bayle has collated the reports of sixty-two authorities on the subject of ergot, and out of 1176 cases of lingering labor in which it was used, 1051 were more or less promptly terminated by it. In 111 cases, it failed to produce any effect, and in 14 the success was moderate.—*Bibliotheque Therapeutque, &c., par A. L. I. Bayle tome* iii, *p.* 534.

In addition to the foregoing mass of authority, I will only adduce the testimony of Dr. Ward of New-Jersey, who states that during six years he gave it to between sixty and seventy patients, and in every case, except one, it produced powerful uterine contractions in fifteen or twenty minutes after its administration.—*New-York Med. and Phys. Journal for* 1825, *vol.* iv, *p.* 212.

Notwithstanding all this, it is maintained by some high authorities that ergot does not act upon the uterus, and in support of this opinion it is alleged that it has been frequently given without any such effect having followed, and when it has taken place, it is explained upon the ground of its being a mere accidental coincidence, and that the uterine efforts would have been renewed just as certainly without its agency. Now that erogt has frequently been given without producing any effect on the uterus is readily admitted, and yet this by no means proves that it is destitute of the power ascribed to it. Some constitutions are doubtless not susceptible to its action. This we know to be the case with many agents, whose action on the human system is universally acknowledged. Besides, much of the alleged inefficacy of ergot may very readily be explained by the fact, now well known, that this article is not always precisely the same. From a variety of causes influencing the growth of this curious substance, independently of designed sophistications, it has been established that its properties differ very materially, and if these be not duly regarded, it is by no means wonderful that its use is frequently not followed by any effect. With regard to the supposition that the uterine action which follows its exhibition is a mere coincidence, it seems to me to be entirely done away with by the fact that the pains which are produced are entirely different in their character from those of ordinary labor. The latter are distinguished by perfect intermissions; while the former, are not only more severe, but they are continuous until the labor is completed. Females themselves are perfectly conscious of this difference in the two kinds of pain, and by them this difference has been frequently described. Besides this, the uniformity and rapidity with which the pains come on after the exhibition of ergot, is altogether irreconcilable with the supposition of its being a mere coincidence. If the pains came on at remote and variable periods, then indeed might there be some ground for denying the agency of ergot in producing them. This, however, is not the case. As a general rule in from five to twenty minutes, severe and forcing pains come on,* and after continuing for an hour or more, if the de-

*By Dr. Prescott the time was precisely marked in twenty cases. "In two of these, the increased strength of the pains and the continued action commenced in seven minutes from the time the decoction was taken; in one case, it was eight minutes; in seven, it was ten; in three, eleven; and in three others, it was fifteen minutes; in the four remaining cases there was no apparent operation until twenty minutes had expired."—*A Dissertation on Ergot, by Oliver Prescott, A. M., p.* 11, *Boston*, 1813.

Dr. Ward, as already quoted, states that he used it in sixty or seventy

livery be not completed, the same effects may be reproduced by a repetition of the dose. Now, if all this does not prove that the ergot is the cause of the uterine action, I am at a loss to conceive what kind of evidence will establish the action of any medicinal agent on the human system. If we still doubt in relation to ergot, we may with equal propriety doubt concerning the operation of ipecacuanha on the stomach, or of calomel on the liver. Although there can therefore be no reasonable question about the operation of ergot, yet it is certain that it sometimes fails. This is a fact which has been frequently noticed by those who have prescribed it. Professor Dewees states that he has "in several instances failed to produce the slightest effect with the ergot procured at one shop, whilst that from another, in the same patient, has been as prompt as it was efficacious."* The same thing has been observed by others. In a large majority of cases this can easily be accounted for. The character of this article is modified by a number of circumstances, all of which should be attended to if we wish to have it genuine. As these are important in a practical point of view, they are deserving of the greatest attention.

In the first place, the character of the season, as to dryness or moisture, appears to influence very materially the quality of the ergot. According to Burnett, it has been ascertained that the principle of the ergot resides in the diffluent peridium or external covering. Now if heavy rains fall at the time when the peridium is soft and moist, it will be washed away and the hardened nucleus, if wholly denuded, will be utterly inert. If the weather be fine during the season of maturation of the fungus, the diffluent peridium will be dried upon the spur, and the ergot be in its most active state. Hence it is, that although moisture favors the early growth of the ergot in the spring and summer, it requires a dry autumn to ensure its activity.†

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cases, and in all excepting one case, it produced "powerful uterine contraction in fifteen or twenty minutes after its administration."—*N. York Med. and Phys. Journal, vol.* ii *p.* 212.

Mr. John Paterson of Aberdeen, states that he used it in eight cases, and it acted strongly in all in less than five minutes after it was administered.—*Edin. Med. and Surg. Journal for Jan.* 1840, *p*, 142.

*American Journal of Medical Sciences, vol. i, p. 255.

†Outlines of Botany, by Gilbert Burnett, Prof. of Botany in King's College, London, p. 207, Upon the same principle he explains the fact, that the grain in which the spur prevails in equal proportions, will in some years produce the dry gangrene, while in others it will not.

In the second place, the period when it is gathered has an influence on the character of the ergot. According to the experiments of Dr. Kluge of Mendelurtz, it would seem that it only displays its active properties, when collected before the cutting of the parent crop. At the Maternite of Mendelurtz, trials were made upon fifteen females, and the result was, that what was gathered before harvest was very energetic, while that collected after harvest was altogether powerless.* Whether this be true in its full extent or not, certain it is that there is a great difference in the strength of the article, according to the time when it is gathered. A recent writer, Dr. Green, who states that he used it in nearly one hundred cases, says that when gathered from the standing grain, and about the period when it is ripe for the harvest, he has found it not only more certain in its action, but "in doses of eight or ten grains, to prove as efficient in increasing the uterine powers, as the scruple or half drachm doses of the ones obtained in the ordinary way."†

In the third place, the time it has been kept modifies the quality of the ergot. Although some experiments of Lorinser would seem to show that so far as its action on the stomach is concerned, it retains its active properties for two years,‡ yet the result of general observation has shown that its influence over the uterus is impaired if it be kept over the year in which it is collected. Like all other vegetables too, it is easily acted on by heat and moisture. To have it good, therefore, it should be fresh; and it ought to be kept in bottles tightly stopped, and it should not be pulverized until required for use.

In the fourth place, a fictitious ergot has sometimes been sold for the real article. In this country and on the continent of Europe, where rye is extensively cultivated, and where of course there is an abundance of ergot, this is a fraud which is not likely to be met with. In England, however, where much less rye is grown, the ergot is occasionally very scarce, and this has led to a variety of impositions. Dr. O'Shaughnessy of London states, that a specimen of suspected ergot was once given to him for analysis, and he found it to be composed of the sulphate of lime, which had been cast in a mould and colored, so as to imitate very closely the natural ergot.§ Mr. Wright says he has several times observed the

*American Journal of Medical Sciences, vol. xii. p. 515.
†New-York Journal of Medicine and Surgery, for Jan. 1841. p. 23.
‡Edin. Med. and Surg. Journal for 1826, p. 453.
§Lancet for 1830–31, vol. i. p. 638.

ergot to be adulterated with common paste; "a fraud," he suspects, "of very frequent occurrence, though not of very easy detection; for the process of baking generally modifies the starch, so that it can scarcely be indicated by iodine."*

The foregoing causes appear to me abundantly sufficient to account for the discrepancies in the statements which have appeared in relation to the action of this singular substance, as well as for the occasional failure which attends its use.

II. *Acting thus powerfully on the uterus, does ergot produce any effect upon the child?* This is a question of great interest, and one which involves consequences of great importance, not merely in a professional, but in a moral point of view. On this subject, the opinion of the profession is divided. While some maintain that it produces no effect, at least no injurious effect upon the child; others contend that it frequently proves destructive of life, and that the general use of it is one of the causes of the great increase in the number of still-born children. An attentive examination of the subject, in all its bearings, will, I fear, but too certainly lead to a conclusion in favor of the latter opinion. From the peculiar effect of the ergot upon the uterus, it is evident that the child must sustain a degree of pressure entirely different from what it does in ordinary labor. In the first place, it is much greater. In the second place, it is unremitting and continued, and that too for a considerable length of time. Now, it is by no means unreasonable to suppose that this pressure may frequently prove injurious and even fatal to the child. This would be more especially likely to happen in cases where the waters are discharged early, and where the uterus is contracting directly upon the child. In natural labor, the child has time to recover from the effects of pressure during the intervals between the pains, while here no such chance is afforded. And it is not irrational to suppose that the design in making the pains of labor intermitting, was not merely to allow the mother time to recover her strength, but also to enable the child to recover from the effects of pressure. That continued pressure may and does prove injurious to the child even in cases of ordinary labor, where this process is protracted, either from the disproportionate size of the child, or from the resistance of the parts through which it is to pass, is a fact well known. How much more likely is this to happen where an unnatural and unremitting pressure is kept up, as is the case under the influence of ergot? From these general considerations it would seem not merely perfectly natural but unavoidable that in

*Edinburgh Med. and Surg. Journal, Oct. 1839, p. 297.

many cases, the child must suffer from the use of ergot. After all, however, this is a question which must be decided by facts, and these will tend still further to countenance this opinion. So early as the year 1812, it was suggested by the editors of the New-England Journal of Medicine and Surgery, that while fully convinced of the parturient powers of the ergot, they were apprehensive that an evil of great magnitude not unfrequently resulted from its use; and that was the death of the child. They stated that they had been led to this apprehension from "observing that in a large proportion of cases where the ergot was employed, the children did not respire for an unusual length of time after the birth, and in several cases the children were irrecoverably dead."* Since then a large amount of testimony has been furnished confirmatory of the truth of this suggestion. In the same Journal,† a case is recorded of a female in her third labor, who was delivered of twins. After the first child was born, which was living, an hour elapsed without the recurrence of a single pain, in consequence of which it was determined to administer the ergot. Fifteen grains in powder were accordingly given in a little water. In fifteen or twenty minutes the pains came on and continued without remission till the child was born, which was in about twenty minutes from the time the pains commenced, the head being born first as in natural labor. The child, however, was still-born, and every effort to resuscitate it failed. It was in every respect as fine a child as the first, perfectly fresh and firm. The writer remarks that "every one who is acquainted with the facility with which, in a case of twins, the second child makes its way into the world, will consider the death of the child in this instance as an unusual occurrence."

Dr. Ward of New-Jersey, whose experience with this article appears to have been extensive, and who speaks of it as a valuable agent in many cases, nevertheless admits the danger which attends the child from its use. "In all the cases," he says, "in which I have given it, unless the child was expelled very soon after the powerful contractions came on, it suffered very much, and would lie for some time without breathing." Again he says, "from my own observations, with regard to the ergot, as well as from other correct sources of information, I am led to conclude that in most cases, after giving it, unless the child is expelled in forty minutes after the powerful contractions come on, it will be born dead."‡

*Vol. i, p. 70.
†Vol. ii, p. 353.
‡New-York Med. and Phys. Journal, vol. iv, p. 212.

The late Dr. William Moore, a veteran practitioner of obstetrics in this city, after detailing some cases, gives his opinion in relation to ergot in the following terms: "It appears to be injurious to the child at all times; for in every case in which I have seen it exhibited, the child has been still-born and in the greater part of them it was not possible to restore it to life.*

Dr. Hosack states that he gave the ergot in three cases, and "although no evidence existed previous to the use of the medicine, that the fœtus was not living, in every case in which it was administered, the child was still-born."†

Dr. Chatard, of Baltimore, made two reports in relation to the effects of ergot. In the first, out of twelve cases in which it was given, six of the children were still-born.‡ In a second report, out of twenty-five cases, eight were still-born, two of whom were however resuscitated.§

Dr. Holcombe, of New-Jersey, says, "more children, I am satisfied from what I have seen and heard, have already perished by the injudicious use of ergot, during the few years which have followed its introduction into the practice of this country, than have been sacrificed by the unwarrantable use of the crotchet for a century past."‖

Dr. Church, in seven cases, which he details, in which the ergot was used, had five children still-born. Although he thinks that in these cases the ergot had nothing to do with this result, yet he confesses that he "has no doubt if given in cases where there is great rigidity of muscular fibre, before the labor is advanced, when the os uteri is undilated, the external parts unrelaxed, and when blood-letting has not been premised, that the powerful and continued efforts of the uterus, caused by the ergot, will prevent the retreat of the child's head after it has advanced within the bones, and that the unceasing pressure may in some instances occasion death."**

Dr. Davies, of London, reports ten cases in which the ergot was used. In four, the child was still-born. In a fifth, the child was apparently still-born, but soon recovered. In all the still-born cases, it appears that the child was not delivered until upwards of an hour had elapsed after the administration

*Compendium of Midwifery, by Samuel Bard, M. D., p. 214, 4th ed.
†New-York Med. and Surg. Journal, vol. i. p. 205.
‡New-York medical Repository, vol. xx. p. 17.
§Ibid, vol. xxi. p. 160.
‖Philadelphia Journal of the Med. and Phys. Sciences, vol. xi. p. 318.
**Philadelphia Journal of Med. and Phys. Sciences, vol. viii. p. 139.

of the ergot. In the first, two hours elapsed; in the second, a little more than an hour; in the third, six hours; in the fourth, a little over an hour.*

Mr. T. Chavasse, of Birmingham, states that in eighteen cases in which the ergot was used, the children were still-born.†

Mr. Jukes, of Birmingham, says that out of six cases in which he used it, five of the children were still-born.‡

Mr. P. H. Chavasse reports nine cases in which its use was followed by the birth of still-born children, and in all before he administered the ergot, "there was every indication of the children being alive."§

Mr. Elkington says that "several of his patients who took it, had still-born children."‖

Mr. John Paterson, of Aberdeen, used the ergot in eight cases, and in three, the children were still-born—"than which," he says, "no stronger evidence need be adduced of its extreme danger." In the three cases alluded to, he states, that he satisfied himself before its administration that the children were not only alive, but apparently strong and healthy; but as soon as the action of the medicine commenced, these impressions became gradually less sensible to himself as well as the mother. And he adds his doubts whether by the use of this article more deaths are not occasioned than by the use of instruments.**

In addition to the foregoing, I adduce the following communication from one of my professional friends in this city, whose long experience entitles his opinions in relation to practical matters, to the highest consideration.

New-York, January 14th, 1841.

My dear sir:

After what I considered a fair and full trial, I formed an opinion on the use of ergot, twenty-five years ago, and one which has governed me in practice ever since. I consider it a valuable article of the materia medica, to be used with great caution and only in cases of clear necessity. I have reasons satisfactory to my own mind for believing that it has frequently destroyed fœtuses and produced sterility in mothers. Entertaining this opinion I am surprised to see by some late publications that this article continues to be resorted to by some

*New-England Journal of Med. and Surgery, vol. xv. p. 18.

†Transactions of the Provincial Med. and Surg. Association, vol. iv. copied into the Transactions of the N. Y. State Med. Society, vol. iii. p. 353.

‡Ibid, vol. iii. p. 354. §Ibid, vol. iii. p. 355. ‖Ibid, vol. iii. p. 354.

**Edinb. Med. and Surg. Journal for January 1840, p. 142.

practitioners under very trivial pretexts. I mean on occasions where, to say the least, it is totally unnecessary. It hastens labor, it is true, but I entertain so high a respect for the intelligence of nature, that I consider this hazardous method of bringing a child *into* the world before its time, as little better than sending it *out* before its time.

Yours truly,

CYRUS PERKINS.

Prof. J. B. Beck.

The facts which have thus been detailed, would seem to be abundant to show that the use of this article has in many cases proved injurious to the child. That it does not prove so in all cases, and that in the hands of those who have used it prudently and judiciously it has never produced such an effect, is certainly no argument against the correctness of this conclusion. Even by those who have most frequently observed its fatal effects upon the child, it is admitted that this does not uniformly take place. The circumstances under which this difference of effect occurs, are easily explicable. As the danger to the child appears to be owing to the degree and duration of the pressure to which it is subjected, it would seem evident that just in proportion as the uterine organs are in a condition to admit of a speedy delivery after the ergot begins to operate, will the danger of the child be lessened; and on the other hand, in proportion as the delivery is protracted will the danger be increased. This corresponds with the observation of Dr. Ward, already quoted, that whenever the child is not delivered in forty minutes after the action of the ergot commenced, it is generally still-born. For the same reason too it has been found more injurious when used in first labors than in subsequent ones.

III. *Is ergot capable of producing any effect on the uterus anterior to the full term of gestation?* On this point there is also a great difference of opinion. Some contending that it acts only at the full period and when the process of labor has already commenced; while others assert that it exerts its influence at any period of pregnancy. To settle this question a great number of experiments have been made upon animals, the result of which is, that while in the majority it produced no effect, yet in a number it succeeded.

By Dr. Erskine, several experiments were made upon cats, at various periods of Pregnancy, and in every instance it is stated that he succeeded in producing abortion.*

*Philadelphia Journal of Med. and Phys. Sciences, vol. xi. p. 112.

By Dr. Oslere, experiments were also made upon animals, and with similar results. The first was on a sow, who was supposed to be in her seventh week of pregnancy. One drachm of the ergot was given and repeated again in the course of three hours. In the course of the night she had aborted nine small pigs, about the size of common mice. His second experiment was upon a cow, which was supposed to be with calf, though not sufficiently advanced to be certain of the fact. Two ounces of ergot in powder were given about ten o'clock in the morning, and after suffering severe pain she aborted at six o'clock in the evening of the same day. The abortion was about the size of a common full grown rat, but very imperfectly formed. His third experiment was on a cat that appeared to be near her time of delivery. Sixteeen grains of ergot in powder, mixed with butter, were given at eight o'clock in the evening, and the animal confined in a room. On visiting her the next morning, she was found to have been delivered of four kittens, all of which died during the day.*

Dr. Oslere states as the result of his experiments, that he has not the least hesitation in believing that the ergot is capable of producing abortion at any period of utero-gestation.

Dr. Chatard, of Baltimore, tried its effects upon six cats, all more or less advanced in pregnancy. On the first, it acted as an emetic; the second was slightly purged; the third, fourth, and fifth, were not at all affected by it, although the last took a double dose of it at once, i. e. two drachms in powder; the sixth, half advanced in pregnancy, to which he gave but one drachm, had her legs paralyzed for a short time, in less than one hour, and abortion took place in twenty-four hours, preceded by considerable hemorrhage.†

More recently several experiments were made upon different animals, by Mr. Wright, without producing any effect.‡

The only inference to be drawn from the foregoing facts is, that although ergot is capable of causing abortion in animals, it does not do so with any degree of certainty or uniformity.

That ergot has the power of producing premature labor in the human subject, is now established by such a number of well attested cases, as to leave no reasonable doubt on the subject.

Dr. Oslere, in a paper published in 1825, states that this had been successfully practised by Prof. James, in the case of

*Philadelphia Journal of Med. and Phys. Sciences, vol. xi. p. 113.
†New-York Medical Repository, vol. xxi. p. 163.
‡Edinb. Med. and Surg. Journal for Jan. 1840, p. 31.

a woman whose pelvis was too small to permit the passage of a full grown child. She had several times been pregnant, and in every case the operation of embryulcia had been resorted to for her delivery. In a subsequent pregnancy, Dr. James suggested the propriety of bringing on premature labor by the use of ergot, and this was accomplished with success, not only in this but in several subsequent pregnancies.*

Dr Chatard relates a case in which hemorrhage occurred at the fourth month of pregnancy. Every means used to arrest it having failed, twelve grains of ergot were given with the effect of arresting the hemorrhage. On the next day, the hemorrhage returning, a similar dose was given, and in a few hours the female aborted.†

Dr. Dewees relates the following case: A female, whose husband had been absent a long time, became pregnant by illicit connexion. Wishing to conceal her guilt she applied to a physician, who gave her some powders which he said would produce abortion. After taking several of them, severe pains came on, with hemorrhage. In this state she was found by Dr. Dewees, and shortly after she was delivered of twins at about the fifth month. On examining a powder which was left, and which was similar to those she had taken, Dr. Dewees found it to be a drachm of powdered ergot.‡

Dr. Weike relates the case of a female attacked with hemorrhage in the fourth month of pregnancy. After continuing violently for three days without any appearance of the expulsion of the fœtus, and when the woman was apparently dying from the loss of blood, eight grains of ergot were ordered to be given every half hour. After the third dose labor pains came on, and she had scarcely taken the fourth before the fœtus was expelled.§

The most satisfactory testimony, however, on this subject, is that which has been furnished within a few years by several British physicians. In 1834 Dr. F. H. Ramsbotham, of London, detailed six cases, in which it was necessary to induce premature labor, and in all it was successfully brought about by the use of ergot. In the first case the pregnancy had advanced to eight months; in the second to seven and a half; in the third to seven and a half; in the fourth to seven and a half; in the fifth to eight; and in the sixth to seven and a half months.‖

*Philad. Journal of the Med. & Phys. Sciences, vol. xi. p. 114.
†N. Y. Med. Repository, vol. xxi. p. 163.
‡American Jour. Med, Sciences, vol. iii. p. 408.
§British and Foreign Review, vol. ii. p. 276.
‖London Medical Gazette, Jnne, 1834, p. 436.

In a subsequent paper, Dr. Ramsbotham has given an account of his practice in those cases in which, from the narrowness of the pelvis, he was obliged to resort to the induction of premature labor. Of these he states that in all he had had sixty-two cases. In thirty-six cases the membranes were punctured, and in twenty-one of these the children were born alive, and sixteen were still-born. In twenty-six the labor was induced by ergot, without any other means being used; of these twelve were born alive, and fourteen still-born. Besides establishing, beyond all doubt, the fact that ergot is capable of exciting the uterus into action anterior to the full term, this report is important in another respect, and this is particularly noticed by the author. It is that the number of still-births in these cases was much greater in proportion in those in which the ergot was used, than in those in which the practice of puncturing the membranes was resorted to. Dr. Ramsbotham adds the remark, that he has seen the stimulating effects of ergot on the uterus in numerous cases of dangerous hemorrhage in the early months, when it was desirable to procure a complete evacuation of that organ, and where no manual or instrumental means could be put in practice.*

Dr. Paterson, of Glasgow, has reported the case of a woman in whom he succeeded in bringing on premature labor in two successive pregnancies by the use of ergot. In both cases it was about the seventh month.†

A similar case is reported by Dr. Heane, in which the ergot effected a premature delivery at the seventh month.‡

Another case occurred under the care of M. Dubois, of Paris, in the person of a dwarf, who in her first pregnancy was obliged to be delivered by perforating the head, and thus bringing away the child. On becoming pregnant a second time, he determined on bringing on premature labor at the eighth month, by dilating the os uteri and the use of ergot. This was accordingly done with success, and a living child delivered.§

The foregoing evidence is conclusive as to the fact that ergot does exert its action on the uterus anterior to the full term of pregnancy. What the earliest period is, at which it is capable of producing this effect, it is impossible at present to determine.

IV. *To what extent are we justified in using ergot?* If

*London Medical Gazette for June, 1839, p. 422.

†Ibid, for June, 1839, p. 333.

‡Ibid, for January, 1839, p. 639.

§Dunglison's American Med. Intelligencer, vol. iv. p. 126.

there be any truth or force in what has been said in relation to the effects of this article on the child, the answer to this question is obvious. In a professional as well as moral point of view, we have no more right to trifle with the life of the child than we have with the life of the mother. When, however, from the nature of the case, it becomes manifest that the life of the mother is in danger, we are not merely justified in using, but it is a positive duty to do so, every means to save her, disregarding every consequence that may result to the child. Now it is for such contingencies that I conceive that ergot ought to be reserved. It should accordingly, I think, never be used except in cases where nature is incompetent to a safe delivery. By too many, it is to be feared, it has been and still is used merely as a *time-saving* agent. Than this, I cannot conceive of any practice more unjustifiable and reprehensible. As a general rule, nature is competent to a safe delivery, and we may rest assured that the best plan is to leave her alone to accomplish the work. Artificial and violent interference, whether it be applied in the shape of instruments or by the use of ergot, cannot but be improper.—*Transactions of the Med. Soc. of New-York. Vol. V. Part* 1.

History of the last illness of Sir A. P. Cooper, Bart., and examination of the body after death.—For many months previous to his last illness, Sir Astley Cooper had occasionally experienced great dyspnœa, upon the slightest exertion; and it had been observed by his friends that the peculiarity of his complexion bespoke some serious impediment to the circulation. It was not, however, till about six weeks before his death that he found difficulty in assuming the recumbent posture; and about that time he began to pass the greater part of his nights in the arm-chair, rather than attempt to lie down. He still continued to see a few patients during the day, both at home and at their own houses. He now became the subject of frequent cough; which was immediately brought on, if he attempted to recline. The gout, of which he had for several years experienced periodical attacks, showed itself imperfectly in the fore-finger of the left hand; and his legs began to swell, owing to the depending position in which they constantly remained.

During all this time he refused medical aid; and it was not till the 22d of January that he consented to see any one, to

whom he might state his symptoms. At the time he was first visited, he was sitting in his chair, with his body inclined forward, and his chin nearly resting on his chest; the pulse accelerated; not the slightest *bruit* nor abnormal sound in the heart, though the beat was extensive, and heard quite to the right side of the chest. The lungs afforded considerable bronchial rattle, but were neither consolidated nor compressed, and filled both cavities of the chest.

Although remedies appeared more than once to produce a temporary remission of his symptoms, and a further attack of gout in one foot seemed to afford some relief to the chest, yet, upon the whole, the disease advanced, and was attended by frightful fits of dyspnœa, during which his face was purple and his mind confused; and it was in one of these paroxisms that he died, on the morning of the 12th of February.

Shortly before his death, Sir Astley Cooper expressed a wish that the appearances which should be presented on the inspection of his body might be recorded in the Guy's Hospital Reports. He had particularly alluded to four points, the investigation of which he thought desirable;—a cured oblique inguinal hernia; a cured umbilical hernia; some suspected indications of phthisis in his youth; and an inability to sleep whilst lying on his left side.

Examination of the body of Sir Astley P. Cooper, Bart., in the 73d year of his age, on February 13th, 1841, at 9 o'clock in the evening, 32 hours after death, by Mr. John Hilton, in the presence of Dr. Chambers, Dr. Bright, Mr. C. A. Key, and Mr. Edward Cock.

The weather was warm and damp: there were slight cadaverous indications, from gravitation towards the posterior part of the corpse: the face and anterior part of the body exsanguine: there was a general and extensive œdema of the lower extremities; but no evidence of serous infiltration in the arms, nor in any other part of the surface of the body.

The head was not examined.

A globular projection, about the size of a large nut, was found at the umbilicus; which receded on pressure, leaving a well defined rounded aperture in the linea alba, capable of admitting the end of the little finger. This protrusion consisted of a few congregated lobes of fat placed immediately behind the umbilicus, between it and the peritoneum, the free surface of which was corrugated, and presented a puckered appearance, most probably inflammatory, and the result of

the artificial curative means which had been employed for a long period during life.*

The anterior, thoracic, and abdominal parietes were covered with a layer of fat, about an inch in thickness, soft, and oleaginous. The muscular tissue exposed during the inspection, was pale, soft, and flabby: indeed, the latter expression is applicable to nearly all the tissues. No gaseous or fluid effusion was found in the cavity of the peritoneum: the greater omentum, loaded with adipose matter, was contracted, and did not extend downwards more than two inches from the transverse colon. Some very old membranous adhesions existed between the right angle of the colon and the gall-bladder: cadaveric transudation of the bile from this viscus had slightly tinged the surrounding parts.

The viscera occupied their natural positions; excepting the cœcum, which was completely invested by the peritoneum, and hence less fixed than usual.

The liver healthy in form: some parts of its surface were slightly contracted and uneven; and sections of it presented hepatic venous congestion, approaching what is termed a "nutmeg appearance."

The gall-bladder was small; and contained a moderate quantity of healthy bile, which, upon gentle pressure, passed rapidly into the duodenum.

The spleen was rather larger than natural, its capsule a little opaque, and the interior of the organ very firm; a section presenting a smooth solid surface of a purplish gray colour.

The stomach was large and distended with gas; the cardiac extremity stained brown by cadaveric transudation, or the action of the gastric fluid upon the blood; its tissues appeard quite healthy.

The small intestines presented nothing abnormal: nor was there any thing remarkable in the large intestines, excepting the dilated condition of the cœcum, the parietes of which were thin; its mucous membrane congested.

The pancreas was healthy.

The kidneys were surrounded by a considerable quantity of adipose tissue, remarkably dense, and very firmly adherent to the fibrous capsule of the gland. Both kidneys were much congested with blood, rather larger than natural, their surfaces mottled, and slightly granular. These morbid conditions

*Sir Astley Cooper wore a piece of cork adapted to the umbilicus; and maintained in its place by straps of adhesive plaster, during many years, and until his fatal illness.

were the most evident at the lower part of the left kidney; less advanced but more generally diffused, in the right: and on the anterior surface of the latter, near its convex edge, were found too small cysts, containing a straw-colored fluid.

The supra-renal capsules were healthy.

The urinary bladder was healthy and contracted, and contained about two drachms of whitish turbid urine.

The internal abdominal ring, on the left side, was rendered distinct by a tubular extension of the peritoneum for about an inch into the inguinal canal.

A depression existed in a corresponding situation on the right side, the bottom of which was firm, irregular, and corrugated; and upon very careful examination, a minute serous canal, not more than a line in breadth when opened, was traced extending from it, along the spermatic cord, into the cavity of the tunica vaginalis, being the remains of a congenital inguinal hernia.*

Upon raising the sternum and cartilages of the ribs, both lungs were brought into view; and retained their expanded condition, overlapping the pericardium, and manifesting no disposition to collapse. No pleuritic adhesions existed on either side of the chest; nor was there any effusion, except into the right pleural cavity, which contained about three ounces of sanguinolent rather turbid serum.

A little recent pleuritis was found on the middle lobe of the right lung, rendering it slightly adherent by plastic effusion to the adjoining ribs to a small extent. Both lungs presented general vesicular emphysema to a very great degree, and their edges were more rounded than natural.

The larynx was not examined.

The lining membrane of the trachea and larger bronchi was smooth, but of a dark purple hue, from congestion in the minute blood vessels: the same appearances extended throughout the bronchial ramifications, the smaller of which were filled with a very tenacious puriform mucus; and many of them were observed much dilated. Both lungs were extremely congested with dark blood, especially in and near the central portions of their lobes. At the superior and posterior part of the right lung was a small depressed and somewhat contracted surface, about the extent of a sixpence; a section of which exposed a calcerous mass, very uneven upon its surface, and about equal to the size of a small pea: it was placed about three lines distant from the pleura.

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*Sir Astley Cooper wore a truss on the right inguinal canal, from the age of nineteen to twenty-five.

When the pericardium was opened, the heart was seen, very large and distended; and about two ounces of rather dark or brown-colored slightly turbid serum occupied the posterior part of the cavity.

The right auricle and ventricle filled with very dark-colored imperfectly-coagulated blood. The auriculo-ventricular valves sound. Through one of the pulmonary valves, near its angle of union with an adjoining valve, was a perforation nearly the size of a small goose quill. A tolerably firm fibrinous coagulum was found in the pulmonary artery and its branches, extending, by minute prolongations, to the fifth divisions; these were made evident, by withdrawing them in a continuous mass with the forceps.

The left auricle and ventricle were occupied by a large quantity of black grumous half-liquid blood. A large portion of the mitral valve opaque, and a little thickened; otherwise healthy. The aortic valves thickened, and rather rigid at their attached margins; whilst the free margins presented a remarkably healthy appearance for their age.

The left ventricle was much dilated; its apex much broader, and more prolonged than natural: the parietes somewhat hypertrophied; and the muscular fibres of the whole organ were pale, flabby, and weak.

The aorta, which was small and narrow, pursued its usual course, but gave off the left vertebral artery between the left common carotid and left subclavian. The entrance to the arteria innominata was contracted, and slightly irregular.

Many small irregular yellowish opaque patches were seen under the lining membrane of the thoracic aorta and the ascending portion of the left subclavian artery. In the midst of the parts so affected, the internal membrane was much softened, breaking down under slight pressure: at three or four points it was destroyed to a small extent, admitting a thin layer of dark matter, probably altered blood, separating it in a slight degree from the subjacent tissue: this latter state was noticed near the origin of the arteria innominata and the commencement of the descending aorta. The whole length of the abdominal aorta was full of black grumous blood; its parietes thickened; the lining membrane opaque, and raised by the sub-deposition of hard, almost bony matter.—*From Guy's Hospital Reports, in London Med. Gazette.—Med. Examiner.*

Principal circumstances connected with seven cases, in which an Artificial Anus has been established in the adult for the relief of urgent symptoms produced by Stricture of the Rectum. By W. H. Walshe, M. D.

[1. Fine (An. ?) *Vid Odier, Man. de Medecine*, p. 274, ed. 2, 1818.]—Female, æt. 70. Symptoms of gangrene from fæcal retention; tumour completely obliterating the rectum at its origin.

Opening made at "most prominent part of the abdomen;" one or two stools daily afterwards; patient lived more than a year, and died dropsical.

[2. Pillore (1776.) *Vid. L'Experience, Janiver* 30, 1840.] —Adult male. No stool for upwards of a month; not a particle of two pounds of mercury, which had been exhibited by the mouth, discharged. Eight or nine inches of the end of the colon and beginning of the rectum totally obstructed from schirrhous induration, &c.

Transverse incision of the integuments above the fold of the right groin, and same of the cæcum; abundant fæcal evacuation. Peritonitic symptoms on the 20th; death on the 28th day. The bowels had not been completely emptied; the exact original weight of mercury being found in a knuckle of the jejunum, behind the bladder.

[3. Freer (1817.) *Vid. Med. and Phys. Journal*, vol. 45, p. 9, 1821.]—Male, æt. 47. Contraction of gut complete; attempt made to divide the stricture; no stool for ten days, vomiting, hiccup, &c.; "death inevitable."

Incision above and within anterior superior spine of the left ilium, and in descending colon; painful evacuation; patient, however, gradually sank, and died on the ninth day.

[4. Pring (1820.) *Vid. Med. and Phys. Journal*, vol. 45, p. 1, 1821.]—Widow, æt. 64. Obstruction seven inches above the anus; total retention of fæces for twelve days.

Incision within and above antero-superior spine of the left ilium, and in descending colon; immediate and forcible discharge of fæces. Three months after, indurated fæces passed through the natural anus, and continued to do so. Six months after, the patient was in good health.

[5. Martland (1824.) *Edinb. Med. and Surg. Journ.* p. 271, 1825.]—Male, æt. 44. A large tumor protruding, as it were, from the neck of the bladder; no stool for twenty-six days; marked stercoral tympanites.

Incision an inch above and within antero-superior spine of the left ilium, and in descending colon; instant escape of fæces and flatus; a year after the patient enjoyed good health; soft stools passed on a few occasions at one period through the natural anus.

[6. Amussat (1839.) *Vid. Gazette Medicale, Oct.* 1839.]—Woman, æt. 48. No stool for upwards of *twenty-six* days; nausea, vomiting &c. Hard, round, immoveable tumours, at the upper part of the rectum.

Incision in left lumbar region, and in descending colon. Four months after the operation, patient in excellent health; one or two evacuations daily; flatus passed by natural anus.

[7. Amussat (1839.) *Vid.* same paper.]—Case previously treated by breaking down fungous masses in the rectum, and subsequently by cauterization. Patient in a deplorable state.

Opening made in left lumbar region and in descending colon; no escape of fæces till the fifth day. Four months after, the patient in a better state than before the operation, and about to quit Paris for the country.

"When the disease is cancerous, the chances of ultimate advantage are, of course, vastly less than in cases of retention from simple induration; but even here it may be justifiably performed, provided the patient, after having been made fully acquainted with the nature and likelihood of the benefit to follow, still desires to undergo it." It is scarcely necessary to add, in defence of this position, that (even admitting the benefit obtained to be necessarily of short duration, which is by no means certain,) there are cases wherein the preservation of a given life, even for a few days, may be of the utmost consequence to families, in a worldly point of view.

It will be observed that in Pillore's case the unfortunate issue probably depended on the obstruction caused by the gravitation of the mercury in the pelvis: the site of the incision was also evidently ill-judged. The cause of death in Freer's case does not very clearly appear from his details.

M. Amussat's motives for preferring the operation proposed by Callisen (the lumbar incision, whereby implication of the peritoneum is avoided) to the inguino-abdominal incision of Littre, are explained in his papers referred to.—*London Med. Gaz.—Ibid.*

On Effusions into the Cavity of the Thorax, and a new method of evacuating them. By M. Reybard.—The new method proposed by M. Reybard for the evacuation of fluids effused into the cavity of the thorax is, "to leave the opening which may be made in the thorax free during each act of expiration, but to close it during each inspiration," and thus prevent the ingress of air into the thoracic cavity, to which he attributes the numerous failures of the operation for empyema, &c. For this purpose he introduces into the wound a tube or canula, to the extremity of which is attached a portion of cat's intestine, softened by immersion in warm water, about three inches long and open at both ends. During expiration, this instrument gives free passage to any puss or fluid from the cavity of the thorax; but during inspiration the sides of the gut collapse, and, acting as a valve, completely prevent the air from entering the thorax.

Having performed several experiments with his valved canula on animals, and acquired a conviction of its utility, the author employed it on several occasions of empyema and hydrothorax, four of which he describes at considerable length. In one case, the patient was cured on the fifteenth day; in another, on the thirty-fifth day; in a third, it required four months of constant care before the wound in the thorax was completely healed.—*Provincial Medical and Surgical Journal. Ibid.*

THE WESTERN JOURNAL

Vol. IV.—No. I.

LOUISVILLE, JULY 1, 1841.

CONTRIBUTIONS TO THE PATHOLOGICAL MUSEUM OF THE MEDICAL INSTITUTE OF LOUISVILLE.

We should have apologized for not having at an earlier period acknowledged the receipt of the following specimens, many of which are valuable. It will, we hope, be gratifying to the friends of science who sent them, to know that they are used in the illustration of the lectures on Pathological Anatomy, Surgery, and Obstetrics, in the Institute, and thus made to contribute to the education of the students of the West. We return our thanks to the doners, and respectfully solicit from them, and their brethren, additional contributions. They will be permanently preserved and labelled with the names of those who send them; and an account of the cases kept in a register provided for that purpose.

KENTUCKY.

From Dr. John C. Brent, late of *Louisville*.

A large, firm adipose tumour, successfully extirpated, by himself, from the neck of a lady.

A polypus of the gelatinoid variety, taken by himself from the nose of a gentleman.

From Dr. Samuel B. Richardson of the same city.

A specimen of carcinomatous liver, the disease extending to the gall bladder which contained several *black* biliary calculi.

A gelatinous polypus, extracted by himself from the nose of a young lady.

From Dr. William T. Taliaferro, of *Maysville.*

A fibrous uterine polypus, removed by himself.

From Dr. John M. Duke, of the same city.

A heart showing the ravages of pericarditis.

OHIO.

From the late Dr. Dudley W. Rhodes of *Zanesville.*

A very large encephaloid tumour, from the upper part of the cavity of the abdomen. We may hereafter give a history of the case.

A testis and epidydimus, enlarged and indurated by chronic inflammation. Successfully extirpated by himself.

An osseous specimen from an aged female, in which the entire neck of the os femoris had been absorbed.

From Dr. J. J. Brice, of *Newark.*

A specimen of strongylus, six inches long, discharged from the bladder of a female patient.

From Dr. John W. Russell, of *Mount Vernon.*

Four specimens of urinary calculi, extracted by himself.

From Dr. John Dawson, Jr., of *Jamestown.*

A specimen of intussuscepted ileon, more than two feet long, discharged per anum, his patient recovering.

From Dr. Davius Maxon, of *Gallipolis.*

An uncommonly voluminous adipose tumour extirpated by himself, from the back part of the thorax of a woman.

A scirrhous breast, likewise successfully extirpated by himself.

A pin discharged through the parieties of the abdomen, nineteen years after it had been swallowed.

INDIANA.

From Doctor Rogers, of *Madison.*

A large fibrous tumour successfully removed by himself from the arm of a child eighteen months old.

ARKANSAS.

From Dr. P. M. Enders, of *Van Buren.*

A hypertrophied heart with valvular vegetations. D.

CONTRIBUTIONS TO OUR JOURNAL BY SOCIETIES.

It will be seen, that we are indebted to the *Medical Society of Tennessee* and to the *Louisville Disirict Medical Association*, for several original papers, published in this number. It is truly refreshing to find our physicians meeting for some other purpose than to enact laws against ungentlemanly conduct; or to listen to public *elementary* lectures on things which every student ought to know. The true ends of all Medical Associations appear to us to be the three following: First, that the physicians of the same country may become personally acquainted, and thus widen the sphere of their social enjoyments;—second, that they may plan and give an impulse to the execution of those works of benevolence and patriotism, which should originate with our profession:—that they may contribute to it the results of their observation, experience and experiments—to be discussed and published. Of these objects the last is unquestionably the most important; and all of them should be placed before blue-law legislation, and public *ad captandum vulgus* orations and addresses, composed of ideas, *uncommon* only in the fanatical concentration they may receive, or the new costume in which they may be arrayed. There is not in the "wide world" a nobler and richer field for original Medical and Physiological observation, than our beloved West and South present, and in every part of both, there are scientific physicians, who if they would diligently observe, and industriously communicate to each other, at stated times, the results of their observation, to be then and there scrutinized, would do more for the elevation of our professional character than could be accomplished in any other way. With these views before us, we respectfully urge upon all Societies and Associations now existing among us, or that may be, hereafter, formed, to turn their attention to this object, with renewed energy. We shall at all times be happy to give publicity to every paper which contains new facts or suggestions, which will at once make them extensively known, for our monthly reaches all the great divisions of the Mississippi Valley.

D.

MILK SICKNESS.

The "*Mill Stone Knob*" in Sumner county, Tenn., is one of the localities which have been famed, since the settlement of the country, for giving rise to milk-sickness. It is now generally called the "*poison* knob." Yet domestic animals of every description may be seen, at this season,

feeding upon the grass which grows luxuriantly on its sides wherever the sun has gained admission to the soil, and it is understood that they may continue to range it with safety until about the commencement of winter. In a hasty excursion which we made to the knob, a few weeks since, we saw, every now and then, the spot where a fire had been kindled to consume the carcass of some animal which had perished of the poison. Such occurrences, we learnt, were still not uncommon in the neighborhood, yet owing to the caution of the people in keeping their milch-cows upon pastures which have been cultivated, a case of poisoning in the human subject has not occurred for three years. The country around the knob is thickly settled, and families are found living on the sides of the hill. They feel safe so long as they abstain from the flesh and milk of animals that have been ranging the "poison knob," or in other words, while they confine their stock to their own cultivated grounds. This knob is one of the most fertile spots to be seen in that fertile region of country, and has a black, rich soil to its very summit, which is now covered with a luxuriant growth of cane. So fine is the pasture upon it, in winter, that persons drive their young cattle to it to pass that season. A few die of the poison, but they feel themselves indemnified in the saving of forage and labor that would be necessary to take the survivors through the winter. I need hardly add, that the cause of this singular disease has not been discovered. The *remedy* for it is *prevention*, and this consists in bringing the soil under the dominion of the plough. One year's cultivation effectually eradicates the poison, and forever afterwards the lands infected by it, if sowed in grass, may be depastured with impunity. It is a fact attested by all with whom I conversed, that hogs and buzzards, as well as hens and turkeys, are poisoned by the flesh of animals that have died from this cause. Dr. Graffe, it may be known to some of the readers of this Journal, came to a contrary conclusion after some experiments upon the hog, as related in a late number of the Medical Examiner. Y.

A NEW CURE FOR HYDROCELE.

Colonel W. M., a gentleman of Smith County, Tenn., eminent for his public and private worth, aged about 75 years, had been the subject of hydrocele during nearly a third part of that time, and although the collection of the fluid had been slow, the tumor had attained a very uncomfortable size before he was relieved of it by an operation which, in this connexion, may be termed novel. In attempting to mount his horse,

early in May last, his saddle turned and he fell on the other side upon his shoulders, by which his body received a smart concussion but no injury. He rose without difficulty, and proceeded to the place of religious worship where he was going, feeling only some slight pain and a sense of tension in the tumor along the course of the spermatic cord. A few nights after the fall he thought that he found less trouble than usual in disposing of the tumor preparatory to sleeping, but it did not occur to him that this was owing to its being diminished in size, nor was his attention called to this circumstance until a week after the accident, when on retiring to bed he was surprised at finding that it had entirely disappeared. In one week the collection of fluid, amounting, it is supposed, to a quart, was taken up by absorption, in consequence, it would seem, of a new action in the parts set up by the shock given by the fall. It has now been upwards of five weeks since the Colonel was thus most unexpectedly relieved of his infirmity, and there is yet no appearance of its return.

A circumstance followed the termination of this case which the physicians who attended the Colonel believed had some connexion with the absorption of the fluid. He was attacked, seven days after the tumor vanished, with profuse diarrhœa, his discharges resembling the rice-water passages in cholera. He was greatly prostrated by the disease, one of the most distressing symptoms of which was an uncontrollable propensity to sleep. He recovered gradually, and now enjoys excellent health. He is a man of strict temperance and regular habits, and is not conscious of having brought on the attack of diarrhœa by any indiscretion. His case is a curious one as to the mode in which he was relieved of the hydropic effusion, and not less so if it be admitted, that the discharge of the absorbed fluid from the system through the bowels was the cause of the diarrhœa, which, we confess, we are not quite prepared to do. Y.

FEVER. BY M. L. LINTON, M. D.

Dear Sir:—I shall, in the present communication, afford you a very brief account of the various forms of fever which have prevailed in this and the adjoining counties during the past autumn and winter—a task which I should not attempt, but for some highly important therapeutic facts, furnished me by Dr. Shuck, a very respectable practitioner of a neighboring town. All the physicians, with whom I have conversed on the subject, (for I arrived at home too late to observe for myself,) repre-

sent the disease as congestive and adynamic from the beginning—rarely followed by much reaction—promptly fatal in a great many cases, and not yielding with facility to the ordinary modes of treatment in any. The winter diseases (which I have had the opportunity of observing) have been of the same type, and even pleurisy and other inflammatory affections of the chest have been best treated without bleeding or with very little. But to proceed to Dr. Shuck's communication. Speaking of the epidemic of last winter, he says, "The disease was ushered in by symptoms not apparently different from those of ordinary intermittent and remittent fever; and that tightness and tenderness of the epigastrium were rarely absent. We gave to it the general appellation of congestive fever, though there was every variety of type from the perfectly intermittent to the purely continued. Those cases in which the apyrexia was distinct, I treated successfully with quinine. The remittent and continued forms, I treated, at the commencement of the season, by bleeding, purging, and other antiphlogistic means common in such cases. This, as far as I know, was the treatment pursued by all the members of the profession in this place, and all had equally bad success. I recollect no case of recovery in which free bleeding was resorted to, and but very few where large and repeated doses of calomel were given."

I became dissatisfied with our mode of treatment, and determined to use quinine in all cases, even the most decidedly continued. The first case to which I was called after coming to this resolution, was a robust and somewhat intemperate man about forty years of age. He had had fever several days when I first saw him—it was of the continued form—he had been bled the day previous to my visit, but without any relief. I immediately gave him 15 grs. of calomel with a little rhubarb: it acted, but the patient remained in the same condition. I then gave him quinine freely every hour during eight hours—then directed a second purge similar to the first—then the quinine as before. Before the expiration of the first eight hours the fever subsided, and a free perspiration supervened. Convalescence was rapid. After this I treated all my cases in a similar way, and *lost not a single one*, though I had a great number. I treated one hundred and fifty-three cases of the prevailing fever of last summer, and lost but one, and that was a black child that had been neglected in the commencement.

One occurrence I must narrate before I close. On the 10th of July last I was called to see Mr. B., a gentleman of middle age and delicate constitution. He told me that he had had a chill some days previous; and that his fever had continued from that time. He required me to bleed him, assuring me that he had always found bleeding and purging his best remedies under similar circumstances. I remonstrated with him, and gave him the history of my treatment of the disease; but he could

not be convinced that he did not understand his own case better than I did, and was therefore inflexible in his demands for bleeding, &c. His pulse was full—skin hot—thirst great. I bled him to the amount of a pint—his pulse sunk, but he was not at all relieved—became restless and complained of great prostration. He then gave up his case into my hands; though on the next day he requested me to bleed him again, which I positively refused to do. I commenced by giving a dose of colomel followed by castor oil, which produced free bilious discharges. I then commenced with the quinine; but owing to the irritable condition of his stomach, it was given in small portions. His case was very protracted, but he ultimately recovered. On the same day that B. was attacked, another gentleman in his immediate vicinity was attacked with the same disease, alike in all the symptoms as described by several intelligent gentlemen who were intimate friends of both the sick men, and saw them every day. This gentleman, Mr. M., was treated by a physician who adopted the depleting plan. He was bled on the same day that I bled Mr. B. He was then freely purged. The next day the bleeding was repeated, and the patient sunk rapidly, and died. I have not a shadow of doubt that such would have been the fate of Mr. B. had I repeated the bleeding; and I can unequivocally assert, that the cases in Lebanon and its vicinity, when treated by the depleting plan, generally terminated unfavorably; and that those which were treated with quinine recovered almost without an exception."

As my paper is almost exhausted, I shall close by rehearsing the Doctor's treatment in a few words. He commences generally with a dose of calomel and rhubarb, or an emeto-cathartic, by the action of which the contents of the bowels were evacuated—then gave the quinine every hour for about eight hours, in two or three grain doses—then used another purgative, and again resumed the quinine as before; sometimes the repetition of the course was unnecessary. In every case the quinine seems to have induced a pleasant perspiration. I have already said that the Doctor employed the above plan in the continued as well as the intermittent forms of the epidemic, and with similar success. In his communication to me he states, that the dysentery, which prevailed concomitantly, was equally amenable to the same course. I have no room for comment, nor do the foregoing facts need any. They show the necessity for close observation—especially *at the commencement* of epidemics. That course which cures the first three or four cases will, with slight variations and occasional exceptions, cure the rest, and vice versa—and thus a therapeutic rule is furnished of more practical utility, than any that could be arrived at by a priori reasoning on general principles. This is not a new rule, to be sure, for I believe it was the Father of Medicine who said—*Naturam morborum curationes ostendunt.*

Springfield, Ky., May 4, 1841.

TENOTOMY.

We had the pleasure of witnessing this operation a short time since by Dr. Thompson, of Hartsville, Tenn., assisted by Drs. Debow and Duvall of the same place. The subject was a little boy, 10 years of age, the son of Mr. Dalton, in whom an abscess in the ham, some years before, had produced a considerable shortening of the gastrocnemii muscles, so that the lad walked on his toes. The tendo-Achillis was divided, and the foot brought at once nearly to its natural position. The most perfect success promised to attend the operation. We would call the attention of our professional brethren to the distortions of the extremities demanding this operation. They are to be met with in almost every neighborhood, and their remedy by tenotomy constitutes one of the most striking and pleasing triumphs of modern Surgery.

Y

TRANSYLVANIA UNIVERSITY.

A short delay in the issuing of our last number enabled us barely to mention the election of a professor of the Theory and Practice of Medicine in this University, as the successor of Professor Smith, who has returned to Baltimore. Dr. Elisha Bartlet, of Lowell, Massachusetts, the new incumbent, is, no doubt, a man of talents and learning, who has claims to the confidence of the public of a higher order than that of standing, as the Dean informs us, at the head of the list of contributors to the American Journal of the Medical Sciences, when that list is *alphabetical.*

OBITUARY.

If we but seldom mention the death of Medical gentlemen, it is from no disrespect to their memories, but through inadvertence, or ignorance of the event.

Died, at Marietta, O. on the 27th of May, of Pulmonary Consumption, John C. Stone, M. D. a native of that State, and a young physician of respectable promise.

D.

CONTENTS

OF NO. II.

ORIGINAL COMMUNICATIONS.

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MEDICINE AND SURGERY.

AUGUST, 1841.

ART. I.—*An Address on the Improvement of the Medical Profession;* delivered before the Medical Society of Tennessee, at its twelfth annual meeting, in Nashville, in May, 1841. By LUNSFORD P. YANDELL, M. D., Prof. of Chemistry and Pharmacy in the Louisville Medical Institute.

It is now ten years since I took leave of this Society as a regular member, and, in resigning the office of Corresponding Secretary, which it had been my honor to hold in it, attempted a sketch of some of the leading objects which such associations are expected to promote. After this lapse of time, it might not be unprofitable, on the present occasion, to enquire how far these objects have been advanced by the labor of the Society. As one of its original members, entertaining a warm personal regard for the individuals who have given

it the benefit of their talents, learning and time, and strongly attached to it, also, by feelings of State pride, I might not prove a very impartial witness in the case; but I think even those the least apt to be satisfied, and those the readiest to find fault must admit, that the Medical Society of Tennessee has not existed in vain. I believe the most skeptical and the most censorious will agree, that it has added something to the standing of the medical profession of the State. Instituted for the purpose of rendering the healing art more useful to society and more honorable in itself, one of the objects contemplated by those who framed its constitution, and by those who first met here to organize the Society, was the *suppression of quackery;* and I know that not a few of those who assembled on that occasion have long since withdrawn from the Society, in despair of its ever being able, with its present powers, to accomplish this great work. Failing in what they deemed the chief concern, they have been disposed to look with indifference upon all the other ends for which the Society was created. Disappointed of the treasure for which, with sanguine tempers and stout hearts, they began to dig in this field, they have appeared to contemn the harvest of fame which the Society is gathering for itself and the medical profession in Tennessee. No one would rejoice more heartily than I should at seeing the deep stain of quackery wiped from our profession. It is impossible to look over the world and see how this "foul anomaly" cleaves to medicine in all lands and amongst all people, and not feel pained and humbled on account of the weakness of human nature. But it has long been the conviction of many of the members of this Society, that quackery is not to be suppressed by the strong arm of the law, and least of all in our free Republic. This is not the nation, and this is not the age for monopolies. The spirit of the people and of the times is averse to prescriptive privileges. Laws to restrain empiricism, could they be enacted, would be enforced only when they were in accordance with public sentiment. Opposed to it, or in advance of it, they would be a dead letter. Men will employ those whom

they fancy possessed of the skill to relieve their sufferings and prolong their lives, and while constituted as they are, they seem fated to be the dupes of the boastful pretender. Laws do not avail in a case like this. There are rights which men cannot be made to surrender, and although civil law might deprive the empiric of many of the privileges of the educated physician, the sympathies of the people, awakened for one who seemed to be downtrodden by the privileged, would amply compensate him for all that he had been obliged to surrender to the claims of the civil magistrate. The remedy, therefore, would seem to lie, not with the framers of our laws, although a wise legislation might do much for Medical science, but with the profession itself, who must rid society of empiricism by improving the healing art—by making all the professors of skill in it truly skilful—by wiping away all *opprobria medicorum*—by rendering the cure of disease safe, certain, and agreeable.

If it be objected that in this a task is proposed which is above all human power—that there must remain, to the end of time, imperfections in the healing art—diseases which no remedies can reach—diseases growing out of that imperfect organization which bad indulgences have entailed upon the race, my reply is, that so long as our systems of cure remain discordant and our remedies uncertain, so long as there continue to be maladies that defy the resources of enlightened art, we must make up our mind to see empiricism flourish; for so long will there be found men loud and impudent in professions of catholicons and panaceas. Hope springs eternal in the human breast, and the victim of phthisis, just dropping into the grave, will eagerly catch at every "pulmonary balsam" that promises to restore his wasted energies and turn back the ebbing current.

It has, therefore, always appeared to me a great mistake in those members who have abandoned the Society because its charter gives it no power to regulate the practice of physic, and to compel students of medicine, like students of law, to pass a satisfactory examination before assuming its high re-

sponsibilities. Most devoutly must every philanthropist wish that such a regulation could be enforced, and that those only were allowed to become the guardians of the public health, who, by a diligent course of study and the use of all the lights afforded to the medical student, have prepared themselves thoroughly for so sacred an office. But no such requisition is made by the statutes of Tennessee; in very few of the States does any such regulation obtain, and where it has an existence under forms of government more energetic than ours, even amid the stern despotism of the European states, empiricism is found flourishing, side by side, with medicine in its most scientific, most improved shape. England has been called the "*Paradise of Quacks;*" and yet medicine has been liberally patronized by the British government, while, for many centuries past, there have flourished there some of the great lights of the profession. There have lived physicians the most erudite and accomplished—of attainments so varied and profound, that the great scholar, Parr, was compelled to concede the palm of learning to the profession of which they were members. But in the midst of these medical philosophers, and in the shade of their ancient and richly endowed universities, the empiric has reared his standard and attracted his host of believers. Was it not, indeed, on that island, and among that nation of savans, that Mesmerism gained its strongest foothold and exercised the widest dominion? Men appear to have an organ of *gullibility*. Humbuggery prevails in every trade and profession. Nothing is so sacred as to be beyond its reach; nothing so humble that it will not descend to it. It has prevailed in theology and in medicine, in politics and in education. Animal magnetism has served to lead astray the gifted and the scientific, as ghosts, witchcraft, the hazel rod, and seventh son, have, time immemorial, been the ignes fatui of the vulgar.

But, I repeat, because we cannot, all at once, cut this monstrous evil up by the roots, it is bad policy to surrender the Society, and give over our efforts at improving the medical profession. This is a distemper of the public mind for which

our art has no specific. In the management of it we must rely upon "general principles." It is of that class of disorders which we wish to see our patient out-grow, or which must be cautiously and gradually worked out of the system by a wise course of hygiene. I regard it as a point settled, that we cannot suppress quackery by any force likely to be granted by the legislature of the State; but it is in the power of the profession, acting in a body, and with wisdom, to elevate medicine to a point where it will not be affected by empiricism. And to this point it is the tendency of this Society to raise it in the State. It has already carried the fame of some of its members beyond the limits of the commonwealth. Many papers read at its meetings have been printed, and have found their way into the medical journals of the country. Much matter has, thus, been brought before the public which, else, had never seen the light; and, in this way, have been communicated to the world facts which will aid to swell the mass of medical learning and experience. Above all, the Society has quickened the energies and fired the ambition of many physicians who will henceforth labor with redoubled zeal for the promotion of medical science. It has now been eleven years unintermittedly in operation. Its meetings have sometimes been thinly attended, but not a year has passed without the assembling of a portion of its members, the reading of a number of papers, and the publication of transactions. The medical topography of several regions of the State has been given to the world, and there can hardly be a doubt, that the physicians who were engaged in investigating the sources and nature of the diseases of their neighborhood have thereby become better practitioners.

This appears to me the true path in which the Society ought to progress. Its literary exercises are its vital principle. They are its circulating fluid, and when they cease, the Society, for all useful purposes, may be pronounced dead. They give to it all its interest, all its influence abroad, and all its value in the estimation of men. Upon these must rest its claims to the gratitude and respect of other generations. It

speaks well for the perseverance of its members, that, in a region where so many enterprises are set on foot, and so few pursued to a successful completion, it has continued to hold its meetings without interruption for so many years.

The influence of the Society upon medical education will be salutary, and this is one of the objects of which it should never lose sight. It is, perhaps, rather a fashion with gentlemen whose own literary attainments are not remarkable to declaim against the slender qualifications of their brethren, and clamor for a more thorough preparatory education. So far as my acquaintance goes, it is among those whose own preliminary training has been most deficient that this complaint is loudest. None, it is said, look with so much indulgence on the "fears of the brave and follies of the wise," as those who are themselves wise and brave. It might not be amiss for those gentlemen who are so clamorous for high literary excellence, to remember the case of the illustrious John Hunter, who was never able to write correctly his own mother tongue, and knew no other, but who, as an anatomist, physiologist and surgeon, was the glory of his own times, and through all time will be regarded as one of the great luminaries in medicine;—a man who drew his information directly from nature, and studied the laws of the animal economy and of disease in his dissecting room, in hospitals, and upon the living systems of the inferior animals. He went at once from the carpenter-shop of his brother-in-law to the anatomist's table, and without any of the aid which learning affords, not only reached the head of his profession, but took up the science where his predecessors had left it, and enriched it with more valuable discoveries than a whole generation of common minds could do. I might also cite the example of another surgeon whose fame is scarcely less than that of John Hunter. I mean Sir Astley Cooper, who likewise entered upon the study of his profession without much preparatory education, and never made pretensions to scholarship. Since I wrote this line I have read that he, too, is numbered with the great departed. Full of years, honor and riches, he has been

called away from the field of his brilliant triumphs. For half a century he stood confessedly at the head of his profession in the great British metropolis, performing every great surgical operation, lecturing to large classes of eager pupils, and amid all his labors finding time to compose splendid works, the result of his own observation and experience, but, all the while, comparatively negligent of the style in which his thoughts were conveyed.

But, while the eminence to which these giants in our profession attained, in spite of the deficiences of their early education, ought to mitigate the severity of those gentlemen who bear so hard on physicians not having the good fortune to be skilled in classical learning, it is far from my intention to intimate, that their example is one to be imitated, in this neglect of early culture, or to depreciate thorough mental discipline and finished scholarship as helps to the acquisition of medical knowledge, and as accomplishments which have reflected upon our profession a glorious lustre. "*Learning*," as it is expressed in that curious book, "the Doctor," "*is a brave thing*." We cannot have too much of it. But it is the "skill of the physician," according to the son of Sirach, "which shall lift up his head, and in the sight of great men cause him to be in admiration." And the history of Hunter and Cooper, not to name others, and not to come nearer home, may teach us, that consummate skill is attainable in our profession without the aid of Greek or Roman learning, without the study of Hippocrates in the original, and even without a mastery of our own vernacular tongue! Nevertheless, let us frankly acknowledge our deficiences. I believe every physician in the country deplores the limited attainments of too many of the profession, and admits that the general standard is too low. As a profession we are in the habit of neglecting polite literature, and what is far worse, have been satisfied with very shallow draughts at the spring of medical learning. It is a great error in our system of medical education, that students are permitted to enter upon the practice of physic after too brief a term of pupilage; for although I agree that the tedious

novitiate which the ancient system imposed may be abridged with advantage, since Hippocrates is not to be translated nor Cullen's Outlines committed to memory, still I must contend that "*six weeks' study, off and on,*" is too short a period to indoctrinate even the aptest pupil in all the mysteries of our comprehensive and most difficult art. Five years was the term formerly required. Dr. Rush studied five years; but he thought, and was in the habit of saying, that, so much had the introduction of principles in medicine simplified it, the students of his day could accomplish more in three years than he was able to do in five. No doubt this is true. No doubt that in three years one may acquire more valuable medical knowledge than students did in thrice three years under the tuition of Boerhaave, or even of Cullen. But if medicine has been so much simplified, it has also been greatly extended. Facts have been multiplied in every department of it, and new branches have been developed. How vastly, for example, has the range of chemistry been widened since the time of Boerhaave, and even since Rush was a teacher of it, and Pathological Anatomy, General Anatomy, Hygiene and Medical Jurisprudence may be said to have been created since the time of the great teacher of Leyden. That it is possible, in the short term devoted to study by a majority of young men before taking their degrees, to compass a knowledge of these branches, and of all the other parts of medical science, it is preposterous to suppose. The most that can be attained in that time is a general bird's eye view of the whole field, with a knowledge of the more practical departments sufficiently minute to enable the young practitioner to pursue his calling with reputable success. If he would rise to eminence in his profession—if he aspire to the rank of a learned and accomplished physician, he must continue his studies faithfully during his whole career.

The primary education of young men designed to pursue medicine as their profession, I have admitted, is not in every case as finished as could be desired. And this is one of a class of crying sins of all this region of our great country—a ne-

glect of the early education of our sons. The South-Western and Southern States have long slumbered in regard to this great concern, and, if they would maintain their rank among civilized nations, must arouse from their lethargy. I believe they are already waking up. I believe the evil is beginning to be felt seriously, and this is a material step towards its correction. But until the whole system is improved, it is vain to hope that students of medicine will be prepared for the profession by a judicious and complete course of preliminary training.

But, supposing the early advantages of the student to have been all that is desirable, the time usually devoted to medical study is too short. Many young men obtain the degree of M. D. after less than two years' study. In such instances, no doubt the application of the pupil has been good; but however studious he may have been, and however satisfactory the examination he is able to pass, it must, nevertheless, be admitted that the knowledge he has acquired in this time is comparatively crude, and his experience in all that relates to the practice of medicine in its several departments quite too limited for the exigencies that he goes forth to encounter. The simplest operations and processes of the art must be practised by the pupil before he is prepared for the duties of his profession, and for this he must have time as well as opportunity. There must be patients to be examined and administered to, either with his private preceptor or in the wards of a hospital. Time is necessary for this; he cannot be engaged with his books while he is studying disease at the bed side, and yet much reading is indispensable as a preparation for this exercise, for he ought to be well grounded in the principles of medical science before he engages in the investigation of the actual phenomena of disease.

But I have yet to mention the defect, in the system of medical education too generally pursued in the Western country, which is doing most to retard the march of medicine to the high place in the public confidence which it is destined to at-

tain. The elementary education of students of medicine is too limited. We grant this, and hope, as the country advances in wealth and intelligence, that this complaint will cease. The period of professional study, we have also admitted, is too brief, and the medical schools of the country, aided by the private practitioners, it is to be expected will ere long correct this evil. But that which is the sorest evil is not so much these, as the engaging of so many young men in the practice of physic after a short course of reading, without visiting any medical school, and, consequently, without any practical knowledge of anatomy, healthy or morbid, and with but little of operative surgery. The influence of this upon the profession can easily be imagined. Such practices inevitably sink it in the public estimation, and tend to bring every class of practitioners to the same level. The population of Tennessee is greater, by one third, than that of Vermont, its climate less salubrious and the number of its physicians probably twice as great. Yet, during the last winter, according to the printed catalogues, Vermont had as many of her sons in attendance on medical lectures as Tennessee. The inference is, that, in the latter state, very many assume the responsibilities of an art involving human life without those advantages which are now admitted, on all hands, to be necessary to the acquisition of a competent knowledge of medicine. If I am mistaken as to the extent and magnitude of this evil, no one will deny that it has an existence in the state, any more than that the correction of it is demanded alike by the dignity of the medical profession and the best interests of society.

Since I have engaged in the task of enumerating the defects which attach to our profession, and which it is one of the purposes of this Society to remedy, I must not pass in silence over one which attaches to the Medical Schools in the United States. I allude to the shortness of the lecture term. In every school of distinction the number of chairs is from six to eight. Anatomy, Surgery, Chemistry, Materia Medica, Theory and Practice, and Obstetrics are taught in all; and

in many there are chairs, also, of the Institutes of Medicine, Pathological Anatomy, and Medical Jurisprudence. And yet the period devoted to delivering a full course of instruction on all these subjects is but four months. The consequence is that the lectures are too much crowded, six a day being common, and, in some schools, seven or eight each day in the week, Sabbaths excepted, while, it is plain, the lecturer must be straightened for time and hurry over many important subjects. If this were the fault of one school, or of a few, it might the sooner be remedied; for students could then resort to those in which more time was given for arranging and assimilating the matter thrown out by teachers, and more leisure allowed for attendance upon hospitals and the anatomical rooms, now universally regarded as the most profitable sources of medical instruction. But it is one which attaches to all alike. In none is the regular term extended beyond four months, while in some it is not even so long. This being the fact, it becomes a difficult matter to apply the corrective, no school venturing to take the lead lest the additional expense imposed upon pupils by their longer absence abroad should deter some from attending it. The proverbial impatience, too, of American young men—their haste to rush "*in medias res*," and complete the irksome period of pupilage militates against such a change. It is with difficulty that a respectable portion of them can be prevailed upon, during the first winter of their attendance, by the entreaty of professors, and by all the terrors of the "*green box*," to remain to the end of even our short sessions; and not a few hurry off, from all the schools with which I have had any acquaintance, by the first of February, thus throwing away the benefit of one fourth of the whole course; as if their sole object in leaving home were to get the name of attending lectures. In this way they are doing much to detract from the reputation of medical schools, and to bring down the character of the profession. The schools, most unwisely as I conceive, adhere to their short sessions, and students, impatient of labor, curtail them still further; so that, practically, for very

many of those who attend but one course, the term is reduced to one quarter of a year. And with the knowledge of man's complicated system and of the diseases which assail it, with the slender outfit derived from this three months' study at a medical school, and a few months' previous reading, do many young men launch out upon the perilous voyage of life—perilous alike to their own reputation, and the health of those who confide in their skill. There is a solemn duty which lies before us here, and equally before the private preceptor and the public teacher. The practitioner, when he sends his pupils to a medical school, ought to charge them to remain until they should hear the last word of the valedictory. Every father should exhort his son to hold out to the end, and with this aid from a quarter so influential, professors would be able to maintain an undiminished class to the end of the term.

Having now stated with candor what I deem defects in our present system and the remedies to be applied, I will declare my belief, that if students avail themselves, in good faith, of all the facilities for the acquisition of knowledge which the American schools of medicine afford, notwithstanding the courses be too short and the lectures too crowded, they prove when they enter upon the active duties of their profession as energetic and successful practitioners as are turned out by the schools of Europe. In the hospitals, which are now found in connexion with nearly every medical institution, they have opportunities of witnessing many of the surgical operations that are likely to fall in their way, and of observing the symptoms and treatment of disease under teachers of learning and experience; while, in the dissecting room, if they be diligent, they may make themselves practical anatomists, and acquire the mechanical tact that will fit them for the duties of the surgeon. Under this system, there are young physicians every year coming forth, from all our schools, who, for judgment in diagnosis, and skill in the management of disease, would compare with the élèves of Paris or London. I speak thus confidently because I have had the most repeated opportunities of comparing the success of

American graduates with that of young practitioners, who have visited the medical institutions of Europe, and because medical statistics bear out the assertion. It is in no spirit of overweaning national vanity that I affirm that I have not found the graduates of London, Paris, or Edinburgh superior, at the bed side, to graduates of the American schools of equal capacity, who have devoted themselves with equal assiduity to their studies. That in general information and literature, and also in a knowledge of pathological anatomy, those of foreign education may have the advantage, I will not deny; but in their ability to treat disease they have in no wise manifested a pre-eminence over those who have studied medicine at home. The medical statistics of France, where the science may be considered as at its highest point, afford no ground of boasting to our French brethren over the physicians on this side of the Atlantic. Better anatomists we concede them to be; in pathological anatomy, particularly, we yield the palm to them, as must the profession of every other nation—that they are cultivating all the branches of medical science with greater industry and with higher success, and are taking the lead of all the world in toxicology, physiology, and pharmacy, we readily admit; but, after all, when it comes to the application of the principles—"to war with death and stop his flying dart," the statistics of the two countries show, that the practitioners of the Mississippi Valley cure as large a proportion of their patients, as the pupils of Louis or Broussais. I will go further and say, that the surgeons of this region have enjoyed a degree of success in their operations, especially in that for stone in the bladder, quite unrivalled by anything that the history of the hospitals of London or Paris can adduce. I do not pretend to affirm that the fact is proof of superiority of skill in Western surgeons, but it is one which justice requires to be stated, and I think it must be admitted, that students are not badly taught when the practitioners are proving themselves equal to the highest functions of their profession.

The practitioners of the South-west are wedded to no theory

in medicine; for if they have, at different times, been carried away by the elegant speculations of Rush, or the bold dogmatism of Broussais, or the simple theory of the Congestive school, their sound, good sense and innate independence of spirit have brought them back, after a temporary bondage, to a wise system of eclecticism. If they make few additions to the stock of medical knowledge, they are on the alert to catch the first dawnings of any discovery that may arise in another hemisphere. The new remedy introduced into the hospital at Dublin or Paris, in the spring, will be in the hands of the practitioners of Tennessee and Missouri before mid-winter, and the new operation performed by Dieffenbach, in Germany, at the beginning of one year, will be repeated by the surgeons on the Ohio and Mississippi before the beginning of the next. So facile and rapid, in our day, is the interchange of knowledge, and so prompt the physicians of the United States to seize and apply whatever may be devised, by human ingenuity, for the relief of human suffering in any quarter of the globe.

This devotion to system to which I have referred, and from which we claim exemption—this proneness in the minds of men "*jurare in verba magistri*"—this blind belief in theory, and the perfectibility of medicine, has made sad work in the profession. For how many centuries after Hippocrates flourished were men content servilely to tread in his footsteps, assured that the science and the art of healing could be carried no farther. Then came Galen, who was but little more than a commentator on the Father of medicine—"*fimbria Hippocratis*"—but with disciples so ardent and confiding as to be ready to aver, that nature herself had changed, rather than admit the probability of their masters having gone astray in their description of the human body. And at a later day, and after some centuries of darkness, Bombastus Paracelsus arose to decry and set at naught all that Hippocrates and Galen had written concerning medicine. "The down on my bald pate," he declared—"*stultissimus pilus*"—knows more than all your doctors; the very

buckles on my shoes are more learned than your Galen and Avicenna; and my beard has more experience than all your universities." Claiming to be himself "*primus medicorum*," he boasted that he made more famous cures than all the physicians in Europe besides, denounced Hippocrates and his followers as infants, idiots, and sophisters, and, seated in his professional chair, at Basil, with great solemnity, burnt the writings of Galen and Avicenna. So Thessalus, before, had written to the Emperor Nero, that he had founded a new sect, *which is the only true one.* "I have been forced to this," he says, "because none of the physicians who have preceded me have discovered any thing useful either for the preservation of health or for the cure of diseases, and because Hippocrates himself has put forward many dangerous maxims. His system was a very simple one, leaving but little to the discrimination of the physician; namely:—that nature, in each case, points out to the patient what is most fit for him, and that, hence, he should be diligently supplied with every thing that he may fancy.

But, anon, Hahnemann appears, to found still a newer school, and put forth a better system of cure, and like his predecessors, in the same line, he must needs begin by denouncing the labors of others as vain and unprofitable. In allusion to the Hippocratic Medicine, he says, with an arrogance which the prince of quacks himself could scarcely exceed, "since this art only consists in a gross imitation of a dangerous and insufficient process, it must be admitted that the *true* medicine was not discovered *till by me.* It is the infallible oracle of the art of curing; it is the sole mode of really curing disease, because it reposes on an eternal and infallible law of nature." And what are these vaunted principles? Truly, these: that it is absurd to seek for the cause of symptoms in order to remove them! that we must cure diseases by the exhibition of medicines which would produce them in a healthy person; that the dose should be infinitely small; and that there are but three original diseases from which spring all the maladies that afflict mankind, namely: "syphilis, sy-

cosis and the itch," corresponding to "the oil, the spirit and the salt," of Paracelsus, "which burn the patient as hell does."

Nor was Broussais, with all his genius, learning and real merit, much more modest in the annunciation of his doctrines —the physiological medicine. "After so many vacillations in its march," says he, "medicine at length follows the *only path which can conduct it to truth*—the observation of the relations of man with external modifications, and the relations of the organs of man one to the other." "What," he exclaimed, in the words of the great Bichat, "is observation, if we are ignorant of the seat of disease?"

This is the language of the *Anatomical School* of physicians, who, with the Hippocratists, divide the Faculty of France. With them, all that had been observed and experienced from the earliest times of medicine down, passes for nothing. Nothing has value with them which the dissecting knife does not reveal or sanction. This is their *experimentum crucis*, the universal test to which every phenomenon in disease must be submitted; and with a fate harder than that of the blind poet, "with knowledge from one entrance quite shut out," they obstinately refuse to receive intelligence through every avenue but one. Symptoms, according to this school, are hieroglyphical until numerous autopsies have deciphered them, and all cures are empirical, and at best but fortuitous, unless made in accordance with the principles of pathological anatomy.

Happily, we are committed to none of these systems. In the spirit of that freedom which our institutions breathe, we welcome truth from whatever clime she may come, doing justice to all schools, forming entangling alliances with none. We are all Hippocratists; we are all Physiologists. We are even willing to be so far Homœopathists, as to give strychnia in paralysis, and bark in intermittent fever. We hail pathological anatomy as a noble branch of Medical science, and honor our French brethren for the zeal with which they have cultivated and enriched it; but in doing so, we have not learnt to despise all that our fathers treasured up in Medicine of

sage experience and enlightened observation. While we glory in the advances which the healing art has made, and is destined to make, in the path that Bichat pointed out, and Broussias pursued with so much success, we cannot forget, that without any knowledge of the pathology of Small Pox, Sydenham declared the true principles of its treatment; we cannot forget that it was observation, not to call it accident, which placed in our hands the prophylactic of this loathsome disease, and we are obliged to own, that by the same process we came in possession of Peruvian bark, opium, antimony, and mercury. We cannot, therefore, agree to discard observation and experience as among the instruments by which the noble fabric of our art is to be reared and carried towards perfection. We do not profess to be giants in Medicine, but standing as we do upon the shoulders of these giants of a former time, we suspect that we may be able to see farther and more clearly than they.

May 5, 1841.

Art. II.—*Case of Disunited Fracture successfully treated with the Seton.* By William H. Donne, M. D. Reported by A. Martin, resident student in the Louisville Marine Hospital.

William Wheeling, a laborer, a native of Ireland, aged 23 years, of intemperate habits, was admitted into the Louisville Marine Hospital on the 14th June, 1840, with a transverse fracture of the tibia about three inches below the femoro-tibial articulation, caused by falling into the hold of a steamboat and striking the limb against a bar of iron. There was no apparent displacement of the fragments, and very little tumefaction of the soft parts was observed in the vicinity of the fracture. On moving the limb in various directions, crepitation was distinctly audible, and the superior fragment could

be made slightly prominent by flexing the knee. No fracture of the fibula, however, could be detected upon the most careful examination. The roller was firmly applied by Dr. T. L. Caldwell, then in attendance, from the toes upwards above the point of fracture, with injunctions to moisten it as often as necessary with aqua ammoniæ and diluted alcohol. After the tumefaction had subsided, two splints, composed of book-binders' board, previously soaked in warm water, were applied and moulded to the limb by the roller, which was carried above the point of fracture as in the first dressing. The limb was now placed on an inclined plane, with directions to keep the dressings immediately over the fracture moistened from time to time. This treatment was continued for six weeks, when the splints, &c. were removed. Upon examination it was ascertained that no union had taken place. All dressings were then discontinued, and the patient permitted to take exercise on crutches through the ward, for the space of three weeks without any improvement. Friction, and rubbing the fragments together by moving the limb in different directions, were likewise resorted to without any beneficial results. On the 21st of August, with the concurrence and assistance of Dr. T. L. Caldwell, (whose tour of attendance had expired a few weeks previously,) Dr. Donne introduced a seton between the fragments, by first dividing the integuments and aponeuroses in the anterior tibial region to a small extent. The tibialis anticus muscle presenting itself, a few of its fibres were detached from their connection with the outer surface of the tibia, to facilitate the passage of the needle. The hemorrhage was comparatively slight, nor did the patient complain of much pain during the operation.

Five days elapsed before there was any appearance of inflammation, which increased gradually until the 27th, when the wound made by the egress of the needle began to suppurate.

29th. Suppuration in both wounds; patient complains of a stinging pain in the vicinity of the fracture.

31st. Pain more severe; inflammation much diffused.

Sept. 2nd. Complains of great pain; local inflammation increased.

4th. Scultetus' bandage applied, moistened with ammoniated lotion.

7th. Inflammation still extending; some febrile action; tongue furred; restless through the night; bowels open without medicine. Seton removed; a considerable quantity of cream coloured pus with some coagula discharged from the internal aperture.

10th. Internal wound continues to discharge healthy matter.

12th. The quantity of matter diminished; a compress with an aperture in its centre, and Scultetus' bandage applied.

14th. Discharge much diminished; roller applied.

17th. No pain in the limb; use splints and roller.

20th. Wounds closed: ordered porter and generous diet.

25th. Severe pain in the fractured limb; restless during the night.

26th. Bandages and splints removed; inflammation of the integuments and subcutaneous cellular tissue in the vicinity of the internal wound; limb much swollen; fluctuation evident; about eight ounces of sanguineo purulent matter discharged.

27th. Matter again collected; counter opening made—affording a free discharge.

Oct. 1st. Discharge very slight; pain greatly diminished by incision.

4th. Health improving; discharge ceased; counter opening closed.

8th. Free from pain; limb seems firm; no appreciable motion in the site of the fracture.

12th. Tumefaction of the limb diminished; patient exercises on crutches, and can support more weight on the leg than at any previous time since the accident.

16th. Patient walks about the ward with a cane; has a good appetite, and rests well at night.

20th. Bandages dispensed with; limb free from pain and daily gaining strength.

28th. Patient can bear his whole weight on the limb; walks well without any inconvenience.

A few weeks afterwards he was discharged cured.

There seems to be much discrepancy of opinion relative to the length of time that the seton should be retained in cases of disunited fracture, Dr. Gibson and others insisting on its retention for months, or until the deposition of ossific matter shall have commenced, while Mr. Liston, who is equally orthodox, thinks one or two weeks sufficient.

Nothing definite, we imagine, can be laid down as to the time which may be required to induce ossific deposition by the seton, for not only are constitutional peculiarities to be taken into consideration, but the location of the injury, and many adventitious circumstances, must influence the recuperative efforts of nature.

Art. III.—*Objections to the Operation for Hydrocele by Injection, in comparison with that by Incision.* By Thomas Carroll, M. D., of Cincinnati, Ohio.

I believe most medical men in this country are favorable to the operation for Hydrocele by injection, although there are not a few well authenticated facts going to show that this mode of operating has not unfrequently failed, and that it has sometimes been followed by the most disastrous consequences. Failure, indeed, has followed where the operation was performed in the best manner; and evidence is not wanting to prove that death has resulted from it, where little or no blame could be attached to the unfortunate operator. If the tunica vaginalis be healthy, and a certain degree of excitability exist, so that the liquid injected will stimulate just enough to cause the production of that peculiar fluid by which serous surfaces are united, the operation will prove successful, unless some unforeseen circumstance should take place. But

where this state of things does not exist, failure will be the result. The following cases will serve to demonstrate this matter better than any train of reasoning which I could lay before the reader:

L. H. of Belmont county, Ohio, aged 60, called on me some time during the summer of 1840, for the purpose of obtaining relief from an enlargement of the scrotum, which had commenced 28 years before. I found the patient in bed, with pain in the loins, fever, and soreness of the tumor, which occasionally existed; but, within the last few weeks, had been more severe and of longer duration, so that the patient was mostly confined to bed.

On examination, I found a hydrocele of the left side, reaching nearly to the knee, being twenty-two inches in its greatest circumference, and sixteen in its least. The prepuce was found on the side of the sac about one-third of its length downwards; the glans penis was more than two inches farther back, yet it could be pressed through the opening of the prepuce when necessary. My patient had never, until within a few days of the time of my visit, submitted himself to the examination of a physician, but was now willing to undergo any operation which would relieve him of his sufferings.

I proceeded to operate by making an incision on the upper part of the sac about six inches long, which reached to the more depending portion. I found immense thickening of the parietes, with enlargement of the cord, epididymis, and testicle, but this latter organ was not so much increased in size as the other tissues. The cord and epididymis were each not less than three-fourths of an inch in diameter. The upper part of the sac had become partially ligamentous, in consequence of the immense appendant weight. Probably the sac with its contents, after the discharge of water, would have weighed three pounds. On examining the inner surface of the sac, I found two ulcers, one on the inferior portion of the cord, and the other on the testicle; these ulcers were each the size of a ten-cent piece, and of a black color. A strip of soft muslin was laid in the wound, with each end emerging

from the angles of the incision, the lips of which were approximated by adhesive strips. During the first forty-eight hours fomentations of warm water were constantly applied, after which emollient poultices were used for about two weeks; then the sore was dressed with simple cerate, until the cure was perfected, which took place in a short time. In this case, as in all others which I have witnessed, a very large amount of serum was poured out during the first three days, after which the discharge was greatly lessened, becoming gelatinous, and eventually purulent.

Had this patient been operated on by injection, the result must have been suppuration, if not mortification;—convulsions might have supervened before either of these terminations, which would have closed the sufferings of the patient by death in a most horrible form. The following case will serve to confirm this opinion.

J. B. of Guernsey county, Ohio, called on me sometime during the year 1839, and said that he had a hydrocele of some years standing, and that he had been operated upon twice, once by puncture and once by seton, without having obtained any relief. He stated that the seton gave him much pain, and that it had been withdrawn too soon. This relation made me suspect a peculiarity of constitution which would need much caution, in case of an operation, to prevent violent inflammation. I told him I could cure him if he would submit to an operation, to which he assented; and I accordingly operated by making an incision, about two and a half inches long. A few ounces of water were discharged, and the wound was dressed by laying in it a strip of muslin, and drawing the lips together with adhesive plaster. I now ordered fomentations to be occasionally applied, and the patient was directed to live on bread and water, or on bread and weak tea. These directions were disregarded, the patient stating that he had no suffering, and therefore needed neither fomentations nor starvation. About the end of the second day, I became anxious that the patient should take a cathartic and be bled, as there were symptoms of approaching fever;

but I was again disappointed by his obstinacy. No untoward symptoms, however, took place until about the end of the third day. The discharge had now become small in quantity and gluey, and the parts were more swollen, and sore to the touch. General fever now existed, with some restlessness; this condition continued for a short time, when convulsions of the muscles of the extremities came on, and were for a few minutes very severe. I soon arrived, however, and immediately withdrew all the dressings, applied fomentations to the scrotum, and bled the patient largely. The cramps subsided in a few moments, and no further untoward symptoms took place; but contrary to my expectations no suppuration followed within the sac. The external wound healed very soon, and it was hoped that an obliteration of the sac had been produced; this hope, however, was not realized, for a very slow accumulation of fluid took place soon after the healing of the wound.

I told my patient that I could still cure him, if he would follow my directions after another operation; and that if he submitted to an operation by any other physician, the whole nature of his case should be fairly stated, together with the true cause of the failure of the operation by myself.

Sometime in March, 1841, this man submitted to another operation, which was performed by injection. Unfavorable symptoms very soon developed themselves, and it was thought that part of the injection had been thrown into the cellular membrane. However this may have been, I know not, but the patient had violent inflammation, with, I believe, loss of sensation of the side of the body on which the hydrocele was situated; likewise, delirium, cramps, and mortification of the scrotum, which soon closed his sufferings. Now I was of the opinion before the unhappy fate of this individual occurred, that if he should ever be operated upon by injection, a fatal result would follow, whether the cellular tissue were injected or not. The extremely irritable nature of the patient's constitution led me to this conclusion.

About the year 1825, the late Dr. Dickson, of Steubenville,

Ohio, operated on a gentleman for hydrocele by injection. Much pain was experienced at the time, but the patient recovered in a short period from all painful symptoms; it was found, however, that the operation had not succeeded. This gentleman visited Steubenville during the winter of 1825–26, for the purpose of being again operated on by a professional gentleman of that place; but it was discovered that adhesion had taken place immediately around the point where the trocar had entered, in consequence of which, the water had accumulated in such a way that the testicle was pushed downwards, so that the accumulation seemed to be mostly above that organ. This circumstance led to the conclusion, that the trocar could not be inserted into the sac without danger to the cord, and that a larger accumulation must be allowed to take place, before a second operation could be safely performed.

In May, 1826, I was consulted by this gentleman as to the probabilities of relief by a second operation. I advised the operation by incision, which he agreed to, and I operated as in the preceding cases. The patient was directed to live on bread and water, and to use occasionally fomentations and thin poultices to the wound for some days; after which the sore was dressed with simple cerate. A perfect recovery took place in a short time, with a radical cure of the disease.

In the foregoing observations, it has been no part of my purpose to go into a general description of the different operations that have been proposed for the relief of hydrocele; but only so far as experience has taught, to give my *objections* to the operation by *injection*, and in favor of that by *incision*.

ART. IV.—*Cases of Fracture and Dislocation*, reported to the Medical Society of Tennessee, in May, 1841. By FELIX ROBERTSON, M. D., of Nashville, Tenn.

Case 1st. Dislocation of the Neck.—Many years ago, I was called ten miles into the country to see James Stuart, an Irishman, beyond the middle term of life. I reached the house where he lay about sunrise, and learnt that about sunset, the evening before, in attempting to mount his horse, while in a state of intoxication, he had gone over the animal and fallen, head foremost, on the ground. The fall occurred on quite a steep hill side, and he fell down the hill. Two or three men were in company with him, and were much amused to see him throw such a somerset, but, although he remained perfectly motionless, did not go to him for some minutes. When one did so, and attempted to raise him up, the man was found to be apparently dead. He was immediately laid on his back and straightened out, when it was soon discovered that he breathed, and he continued gradually to recover until he was able to speak in a whisper; but from his head down, it was ascertained that he was completely paralysed, and that all sensibility was gone.

When I saw him, in the morning, he complained of nothing, could converse in a whisper with his usual intelligence, but pins thrust into any part of his body or limbs gave not the slightest pain, and all muscular motion was impracticable. Conceiving that a partial dislocation of some of the cervical vertebræ existed, and that the case justified a resort to the most vigorous remedies, I placed a man at each of his legs, and after passing a saddle girt under his chin and secured it so that it could not slip off, gave the ends to two other assistants. After several trials, in which I began at last seriously to fear that his head would be severed from his body, I had the satisfaction to succeed in reducing the dislocation. The parts returned to their proper situation with a snap, that was

distinctly heard by all persons around, leaving no room to doubt, that a dislocation had existed.

In a few minutes, after the reduction, the patient complained of a singular sensation of heat in all parts of his body, such as he wnuld feel if standing near the fire; but still, for a number of days, he was insensible to the prick of a pin. Sensibility did, however, very gradually return, until it acquired nearly its natural tone, and with it, the power of muscular motion; but the latter function was established much more slowly than the former.

I saw him some months after the accident, when he was in the following condition: general health good, except constipation of the bowels, which had persisted since the time of his fall; he was able to sit on his chair, and to move his arms and legs, but was not able to walk, or to use his knife and fork. He was sanguine about a complete recovery.

Three months subsequently he was attacked with bilious colic, and failing, as he lived far in the country, to procure medical aid, he sunk under the disease on the second day of the attack. No post mortem examination was made, which is much to be regretted, since it might have disclosed the extent of the local injury that had been sustained in the fall.

Case 2nd. Compound Fracture of the Arm at the Elbow Joint.—A messenger came to me from Mrs. A.'s, four miles in the country, with a request that I would meet my partner, Dr. Waters, taking with me my instruments for amputating the arm. I learnt from the messenger that the son of Mrs. A. had fallen from a tree, and had broken his arm so badly, that Dr. Waters deemed an amputation necessary. On examining the arm of the lad, aged S or 9 years, I found that the humerus had been thrown forward, breaking up all the soft parts in front, and passing entirely through, so as to be exposed, to the extent of several inches. In its violent passage, in fact, it seemed to have nearly cut off the arm, and the soft parts closing behind it, there appeared but little prospect of our being able to restore it to its proper position.

It was determined, however, to attempt to save the limb,

and accordingly the ivory handle of a scalpel was passed into the wound, on each side of the bone, which acted as smooth surfaces on which the bone might slide, and at the same time the sides of the wound were pressed asunder. By this method the fractured bone was returned to its place, and it was surprising to see what a change was thus effected in the appearance of the wound, which, now, closing over the bone left but little resemblance of what it had been a few minutes before. The proper inclination was given to the arm, and that position secured by a bandage. A speedy recovery followed, of all but the use of the elbow joint. Except this inevitable anchylosis, the arm was restored to perfect usefulness.

This case is reported to the Society rather on account of its rare occurrence, than from any idea that it presented any thing novel or peculiar.

Nashville, May 3, 1841.

ART. V.—*A Case of Hydrocele*, reported to the Medical Society of Tennessee at its meeting in May. By FERDINAND STITH, M. D., of Franklin, Tenn.

A young gentleman from the country, aged about 25 years, of fair skin, light hair, and blue eyes, called on me, on the 17th of March, 1836, to have himself relieved of a disease of the testis. On examination, I found him the subject of hydrocele, of two or three years standing. I explained to him the nature of his case, and gave him to understand what sort of an operation he would have to submit to, and how long he would probably be confined.

He concluded to undergo the operation at once, and accordingly took lodgings in town for that purpose. He manifested great solicitude to keep the nature of his disease secret, and desired me, if I could, to dispense with the aid of an assistant, to which I readily consented; and having made the necessary

preparations, I repaired to his room for the purpose of operating.

Having placed him in a favorable position on the edge of the bed, and making myself acquainted with the position of the testis, I laid open the sac with my scalpel to the extent of an inch and a half. So soon as the encysted fluid, amounting to about a pint, had escaped, I introduced my finger into the tunica vaginalis testis, for the purpose of bringing its surface, and the surface of the testis, into view, in order that I might the more correctly judge of the condition of the parts. I found the surface generally presenting a normal appearance, all but a portion directly over the testis, on which there was a slight roughness to the touch, the sensibility of which was so exquisite, with the excessive nervousness of the patient, that when I attempted to introduce a fold of the softest lint, I found him falling into syncope, and was compelled to desist.

After giving him some stimuli and waiting a few minutes, I made a second attempt to introduce a fold of lint, made still less irritating by covering it with simple cerate. This time I succeeded partially, but the operation gave him great pain. I passed a small strip of lint above the testis, in the direction of the spermatic cord. I had made up my mind to effect a radical cure, and had so promised my patient; but at this stage of the business I began to feel in some doubt as to the best mode of proceeding. I was afraid of the effects of stimulating injections on a surface that would not bear the slightest touch, but could not think of suffering the incision to heal without obliterating the cavity of the sac. And it now occurred to me, that the least irritating article that could be devised, would be a piece of the softest kid skin, such as I use for animal ligatures, saturated with the mucilage of gum arabic and white sugar. This I succeeded in introducing with a probe, without giving the slightest pain.

The strips of lint and of kid skin having now been introduced, in different directions, I proceeded to close the wound, leaving the ends of the strips slightly projecting from its lips, and applied a suspensory bandage.

In the course of two or three days the adhesive inflammation was fully established—indeed, was something more than I had desired, and I had to bleed him once, and give him two or three gentle purgatives. In the course of thirty-six or forty-eight hours from the time of the operation, the kid skin had become fixed in its position by the adhesive inflammation, and on the sixth day the projecting extremities dropped off, that portion of the sac in which it lay having contracted and firmly united. While this was the case with one portion of the sac, that which was occupied by the lint had not suppurated sufficiently to allow me to withdraw it, until the ninth day.

On the twelfth day, all the external openings had closed, and I put the patient on the use of camphorated mercurial ointment to hasten the reduction of the parts to their natural condition. He was now able to leave his room, had begun to walk about town, and after a few days more, returned in good health to the country. He has never been threatened with a return of the symptoms, and is now, as he has been at all times since he recovered from the operation, in the enjoyment of fine health.

My object in reporting this case to the Society is two-fold: first, to direct the attention of surgeons to the use of the kid skin in such cases, as giving less pain, and being more likely to answer every indication than any agent hitherto employed;—and, secondly, to suggest the idea of attempting the radical cure of hernia, by, in the first place, reducing it, then opening the sac, and, lastly, introducing the kid skin. Of course, for some days, the patient, after such an operation, would be obliged to maintain the horizontal posture, to use compresses so adjusted as to prevent the intestine from falling into the passage, and to keep the parts in a state of absolute rest. The union, in my opinion, would be effected in forty-eight hours; and if the patient were in a favorable state for the operation, and received judicious treatment afterwards, I should not apprehend any danger of an extension of the inflammation beyond the limits of the enclosed kid skin.

Nashville, May 3, 1841.

ART. VI.—*Operation for Imperforate Vagina.* By JOHN TRAVIS, M. D., of Carroll county, Tenn.

On the 13th day of May I was called to visit Miss Smith, a young lady of this county, aged 16 years. I found her laboring under severe pain of the hips, a sense of heaviness and tension in the uterus, and hardness of the abdomen. On enquiry of her parents, I learned that she had never menstruated, and that she had been under medical treatment for about two years, generally taking emmenagogue medicines. This treatment, instead of affording any relief, only increased the intensity of the pain. By consent of her parents, I made an examination per vaginam, and ascertained that there was no opening for the escape of the menstrual fluid.

I then performed the operation according to the plan of Cooper, by making an incision, more than an inch in length, just below the *meatus urinarius* downward. There was an immediate escape of three pints of *black blood*. The girl was at once relieved of pain, and in a few minutes left her bed and said she was well, and has continued to attend to her ordinary business without taking her bed.

There is danger in delaying this operation. When the blood accumulates in such quantities that the vagina cannot contain it, the uterus becomes distended, and the fluid may escape through the Fallopian tubes and be extravasated in the abdomen.

There can be no question that this operation will prolong the life of the patient on whom it was performed. The hymen was unusually thick and strong, so much so, that the malformation could not have been removed by the *vis medicatrix naturæ*.

June 3, 1841.

REVIEWS.

Traite des Maladies Ventenses, ou Lettres sur les Causes et les Effets de la Presence des Gaz ou vents dans les voies Gastriques, et sur les Moyens de Guerin ou de Soulager ces Maladies ; par M. P. Baumes, *Chirurgien en chef de l'Hospice de L'Antiquaille de Lyon, &c. &c.*

A Treatise on Gaseous Diseases, or Letters upon the Causes and Effects of the presence of gases or wind in the Alimentary Canal, and upon the means of curing or relieving these diseases; by M. P. Baumes. Small 8vo. pp. 223. Paris, Lyons, and Montpelier. 1837.

The formation of gases or wind in the human body, regarded either as a physiological or pathological phenomenon, has attracted but little attention from physicians, foreign or American. In our standard works of physiology the function of gasification is not considered, and in the most popular Treatise of Pathology and Morbid Anatomy of this day, (Andral) the whole subject is despatched in a very few lines, in a manner altogether unsatisfactory.

The monograph before us supplies, therefore, a want which we doubt not has often been felt; and as the author was himself the subject of a very troublesome gaseous affection, and as he has devoted much of his time to the investigation of the subject, in a manner truly practical and experimental, many new and valuable facts have been given to the profession as the result of his labors.

We propose giving to the reader the leading facts and principles, laid down in this treatise, touching the pathology and treatment of these affections. The work consists of twelve letters in which the author considers successively, in a plain and easy style, the various topics embraced in the investigation. After giving an historical summary of all preceding works on the subject, (the substance of which is, that, altho' Hippocrates had said something of gases, although Van Helmont had touched upon them, and, of late, although some few distinguished pathologists had made gasification a subject of study, little or nothing has been said or done to afford any positive knowledge of the matter,) the author proceeds to lay down the various propositions and conclusions which the work contains.

"The gases in the alimentary canal arise from different causes. Sometimes it is the atmospheric air which has entered by the movements of deglutition—of respiration, or the atmospheric air which other gases contain always in greater or less quantity in the food. At other times they are the result of an operation of a chemico-vital nature, like that which constitutes digestion; but above all, whilst there is imperfect digestion, or complete indigestion. They seem to arise again by general belief, at the commencement of decomposition of some materials which have remained for too long a time in the intestinal canal; but you will know better hereafter what estimate to place upon this opinion. The kind of putrefaction—of decomposition, which gangrene exhibits, like one sees in a case of strangulated hernia, occasions, in the same way, their generation."

"With the exception of these cases, their production is owing to a *vital action*, a genuine exhalation which may occur in a state of health, but which more frequently is the result of a state of excitement—irritation of the alimentary canal, and oftentimes, to appearance, of atony. In the same manner as a bloody, mucous, serous, or purulent discharge exists, so does a gaseous discharge exist; and the development of gas constitutes one of those drains by which nature reacts against divers excitements, in obedience to the principle established by Hippocrates, "*ubi stimulus, ibi fluxus.*"

As resolution, suppuration, ulceration, &c. are regarded as

terminations of inflammation, so also may the production of gas; which phenomenon may be designated by the term *flatusation.* It is regarded by our author as a favorable symptom when inflammation is accompanied with abundant gaseous products, inasmuch as they are a method of disengorgement, "a favorable way which prevents Nature from committing herself to other morbid works more or less dangerous—a way which one might be happy to obtain, but which is as difficult to obtain as a hemorrhage by the exhalents." On the contrary, when, during the existence of inflammation, there has been an abundant development of gas, and then a sudden suppression, every danger is to be apprehended. We know the danger arising from the suppression of an habitual discharge —of an eruption upon the skin—of a copious perspiration during fever—of the discharge from a blistered surface, while yet there is intense inflammatory action going on in the internal organ on which the blister has been applied. Now in inflammation of any hollow organ, or an organ having an excretory duct, if there seems to be a termination by flatusation, and while this favorable discharge is going on, a sudden suppression should occur, as a matter of course, the inflammation would become more intense; and it becomes the physician here to direct his remedies in such a manner as to re-establish the gaseous discharge.

The phenomena of the formation and disappearance of gases, therefore, become important means of diagnosis and prognosis.

"The effect of gases in the alimentary canal are extremely varied. They often frighten by the serious symptoms they afford, and have more than once led experienced practitioners into error. Sometimes, without finding issue by the mouth or anus, they are absorbed rapidly, or more or less slowly; sometimes by the lymphatic system and disappear with the lymph—then again by the venous system, * * * * * and they seem, while combined with the blood, to resume their elastic form—to dilate and compress organs, to clog and arrest the circulation, to produce formidable accidents in the heart and brain, and death itself."

Thus much for a brief summary of the causes and effects of gaseous discharges. The author next adverts, in the same brief manner, to the treatment.

"The treatment of gaseous discharges in the alimentary canal may be *vital*, *chemical*, or *mechanical:* VITAL, when one desires to modify the organism—the same vital action which generated the gases; or to effect their expulsion by acting upon the contractility of the gastro-intestinal tube: CHEMICAL, when substances are introduced into the alimentary canal which operate by combining themselves with the gases, absorbing them, or causing them in part to disappear: MECHANICAL, when one wishes to extract them either by the mouth or, particularly, by the anus, or even by any part of the abdominal parietes by means of a surgical operation."

After this brief summary, the author discusses, at length, the three topics which have been glanced at, viz. the *causes*, *effects*, and *treatment* of gaseous discharges.

I. *Causes of the presence of gas or wind in the alimentary canal.*

The author alludes to the fact that infants have been born with a large quantity of gas in the alimentary canal, and shows that they cannot be attributed to any thing else than to a particular condition of the mucous membrane, for the idea of decomposition is out of the question.

Gaseous exhalation is a physiological, or pathological phenomenon.

1st. "With regard to gaseous exhalation in a natural state among plants, as well as among animals, the facts are numerous and well known every where. Who is ignorant of the phenomena of gaseous exhalation and absorption of leaves and of other parts of vegetables? And as to animals, does not the phenomenon of the swimming bladder of fishes, which forms itself during the act of respiration, and the exercise of the functions of the cutaneous system, render this exhalation evident? As to the digestive tube, in a state of health, particularly in certain persons endowed with a particular disposition, there is in it also, regularly, without doubt, exhalation and absorption of gas. If by a convenient opening made in the belly

of an animal, one can draw out a small portion of the intestinal tube not containing any matter, then include it between two ligatures, the intestine thus tied, if allowed to remain in the abdomen, in a short time will, in the portion included between the ligatures, be distended with gas, while other parts of the mucous membrane will appear perfectly healthy."

"The phenomenon of gaseous exhalation in a state of health in the alimentary canal, has been very well noticed by Bernard Gaspard, (Dissertation, 1812.) This author has displayed a great deal of sagacity in the following passage, which seems to support strongly my method of considering gases in a morbid state:

"'It is said that a quantity of gas disengages itself constantly in the intestinal canal of man and animals, particularly during digestion. This gaseous exhalation occurs in persons of good health, but especially in those who are nervous, bilious, melancholic, and naturally windy; also in old age, in nervous, hypochondriac, hysterical, and chlorotic affections, &c.; or it creates the borborygmi and the rumbling noises incident to diseases. These gases are not fœtid; they are particularly azotic, going off by the anus with explosion; or others do not discharge themselves, and are, without doubt, re-absorbed. It seems, also, that they are especially exhaled in great quantity by a kind of option, at the time of the disappearance of emphysema, or during a lesion of the functions of the skin, of the cooling of the feet, &c. But the fact which best establishes the real vital exhalation of these flatuosities is, that they are susceptible of being modified in their quantity, their odour and nature, by divers cutaneous and pulmonary absorptions. Thus the winds which are produced in dissecting a cadaver are cadaveric, according to Bichat; those which are produced by breathing the odour of pus, or in remaining near large ulcers, are like purulent matter. The rubbing of sulphur seems to create a sulphurous odour.'"

As a pathological phenomenon, the author adduces several reasons to sustain the position that gaseous exhalation—or rather gastro-intestinal gases, result from a "state of excitation, irritation, or inflammation itself."

The following argument appears to be as satisfactory as any which he has offered.

"That which proves that Nature proceeds in the exhalation

of gases as in all other exhalations, and that they are so many modes of action, so many different products of the same morbid phenomenon is, that all these exhalations often alternate one with another, succeeding each other, replacing one another, so that the augmentation or appearance of one induces the diminution or disappearance of another. A number of facts prove this." * * * * "The gaseous exhalation which supplies the place of other exhalations or secretions may occur in other organs at the same time that it exists in the alimentary canal. The diminution or suppression of urine, of sweat, of fœces, of the menses, of the lochia, of leucorrhea, of habitual epistaxis, of ptyalism, etc., have given rise to the development of gas in the alimentary canal, in the other cavities lined with mucous or serous membranes, in the cellular tissue, &c. &c."

The following cases among many others recorded, serve to illustrate the position taken by the author.

"M. Pau, a wine merchant, who resided at Guillotiere, came one day with his wife to consult me. The night previous they had suffered, the husband, with a considerable diarrhœa, nausea, excessive pains and cramps: the wife, with a violent colic accompanied with an eruption, above and below, of a prodigious quantity of wind, although she had never before been flatulent. All these symptoms ceased in the morning; but the same thing happened to them five days afterwards, and in the interval they were perfectly well. It was evident that the same cause, or a similar cause, appeared to have acted the second time, in the days of interval, to produce the same morbid phenomena. I convinced myself, by questioning them, that it could not be charged to an error in regimen, nor to the quality of food or drinks, nor to a strong moral emotion, nor fatigue, nor, in a word, to any one of the causes which more ordinarily produce similar phenomena; but I understood that the two evenings which preceded the two nights of sickness, they had gone to make up a party of pleasure at the room of a painter, where a strong odour of varnish was diffused at the time of their visit. I directed their attention to this circumstance, and they immediately remembered that when leaving the painter's they commenced to feel nausea, dryness of the mouth, and a general malaise. It seemed easy to me to understand from them that the true cause of their complaint was the vapour of varnish acting up-

on the alimentary canal. Having ceased visiting the painter's room the accident did not recur. Here it is evident that the same irritating cause produced, (according to the particular disposition of each individual,) in the digestive tube of one a mucous or sero-mucous discharge, and in the other a discharge entirely gaseous."

The following fact is worthy of notice:

"When inflammation attacks the gastro-intestinal mucous membrane in an individual disposed to gaseous exhalation, it is by this exhalation that nature manifests the commencement of the attack. *If inflammation acquires, suddenly or gradually, a very high intensity, no gaseous exhalation will occur where it is more intense, but may continue in those parts of the mucous membrane less inflamed, or less irritated.*

This comports with the well established pathological law, that the secretory stage of inflammatory action in any tissue of the body, is less active than the preceding congestive stage. For example, the burning and throbbing of a boil is relieved in a great degree so soon as suppuration commences. Irritation of the bowels as well as inflammation diminish, and indeed often become entirely relieved upon the occurrence of diarrhœa. The dropsies are all considered referable to a subacute inflammatory state, etc. etc. Now the principle which obtains in the secretion and exhalation of serum, mucus or pus, obtains also in the secretion and exhalation of gas.

Such is the substance of the author's views concerning the causes of the presence of gas in the alimentary canal. We come now to his second head,

II. *The effects of the presence of gas or wind in the alimentary canal.*

Among these effects, the principal will be found in the following list.

1. Enormous dilatation of the digestive tube.
2. Violent colic.

3. Compression of neighboring organs, resulting in disordered function, etc.

4. Absorption of gases by the lacteals and venous radicles; their passage into the circulation, producing,

5. Accidents in the brain, heart, &c. apoplxy, syncope, etc.

General dilatation of the digestive tube constitutes one form of tympanitis; the other form results either from a gaseous secretion from the peritoneum, or the escape of air from the bowels, by a perforation, into the cavity of this membrane. We believe the first form of the disease is the more common.

The writer of this review reported a case in the Western Journal Med. and Phys. Sciences, Vol. No. in which, after several days continuance of inflammation of the bowels, during which time the patient partook of no nourishment, save gum water, tympanitis took place, and so enormous was the distension, and so ineffectual were all remedies addressed to the disease, that it was decided upon, as a last resort, to introduce the trocar. This was done, and a great amount of wind escaped, but the operation was unavailing. The patient died, and a post mortem examination disclosed what was anticipated—an obstruction (consisting of a scirrhous growth) above the sigmoid flexure of the colon, which prevented the egress of wind, and, in its turn, aggravated, by its detention in the bowels, the inflammation which, without doubt, produced it. Now if from any cause, such as the one we have mentioned, spasmodic constriction. pressure of other abdominal organs, an enlargement of a mesenteric gland, a tumour, or intussusception of the bowels themselves, gas should be prevented from passing off, dilatation will not only result, but the gas acting as foreign matter will serve to increase the inflammation, just as retained pus or mucus; so that in all cases of tympanitis it is important to know, if possible, if there be any obstacle to the exit of gas, in order that we may form a proper diagnosis.

But it not unfrequently happens that retained gas, instead

of acting upon the mucous lining of the stomach and bowels, exerts itself, as do many foreign matters, upon the muscular coat. Hence *Colic.*

In the third place, we are to notice the compression exerted upon neighboring organs, and the consequent derangements of function.

"In distending the rectum they press upon the bladder, prevent its dilatation, and cause frequent discharges of urine; or if the pressure be exerted near the neck of this organ, the result, on the contrary, is a retention of urine."

Here is an apparently very simple cause of two forms of urinary disease, which sometimes become very alarming—a cause which, we believe, few are apt to think of—a cause which is apt to exist very often; and we doubt not but that many a patient has been subjected to torture by fomentations, diluents, astringents, &c. &c., when, perhaps, the introduction of a rectum bougie would put an end to his sufferings.

"In distending the colon, or small intestine, they are apt to rise up in the stomach and occasion vomiting. Accumulated in the entire length of the intestinal tube, they press upon the diaphragm and hinder the respiration."

The abdominal viscera may likewise be displaced, or even lacerated, and otherwise injured by the mechanical pressure of gas in the bowels. The bowels themselves are particularly liable to eruption when so distended. Cases illustrating these effects are given by the author.

Local accumulations of gas simulate sometimes other diseases, and physicians are liable to errors in diagnosis. They have been mistaken for wens, abscesses, and aneurisms, being circumscribed and quite hard. Hence the importance of examining with care all signs and symptoms.

Gaseous accumulations in the alimentary canal, particularly if accompanied by gaseous secretion in other parts of the body,

render the body specifically lighter than water, and effectually prevent it from sinking in this fluid.

The following short case, quoted by the author from Morgagni, illustrates the absorption of gas:

"A fisherman of Venice, at the close of his fortieth year, having a hernia, and being subject to windy diseases of the abdomen, was taken suddenly in his boat, and died on the spot."

An examination of the body, made by Morgagni and Santorini, showed that the abdomen was swelled by air, which distended the stomach and intestines. These organs were very red, and inflamed, and presented, also, a gangrenous colour near the hernia. All the veins of the abdominal organs were filled with air, and there was not a single vein in the whole body which was not distended by a black and frothy blood. This circumstance was particularly witnessed in the cavity of the cranium, in the sinuses and vessels of the dura mater—of the pia mater, either at the base of the brain, or rest of the surface, or in the ventricles. * * * * * * In circulating with the blood, gases may give rise to distensions, temporary compression of various organs, obstructions in the circulation, excessive pain, palpitations, chills, vertigo, &c. &c. "They may also vitiate the blood and unfit it for nutrition."

Gases may resume their elastic form after having been absorbed and carried into the circulation. This may happen, either in the intestinal canal, or in the various cavities and organs of the body. In the former event, they may either be discharged by the anus, or give rise to the various lesions already noticed; in the latter, they may not only exert a deleterious influence by compression, but by acting as foreign matter, impair the sensibility of organs, interfering with the functions of nutrition and secretion, and possibly interrupting the latter function by a hidden process of vital chemistry, and lastly, by giving rise to the formation of morbid products.

After occupying four letters in further discussing the pathology of gaseous exhalation, and defining his views of irritation and inflammation, and the relation of these to the former phenomenon, together with some remarks upon diagnosis and prognosis, which, in substance, have already been stated, the author comes to consider,

III. The Treatment. This may be *Medical*, *Chemical*, *or Surgical.*

MEDICAL TREATMENT.

"1st. *Bloodletting.* When there is sanguineous plethora, experience shows that Nature chooses to unload herself of the superabundance of blood, which fatigues her, by discharges of every kind, and principally by a gaseous discharge in the digestive tube. It is this which appears often in women at a critical period, who become windy, and who were not so previously, and who cease to be so after a bleeding. If sanguineous plethora be general, the bleeding should be general. If the plethora is abdominal only, bleeding at the anus would be better, particularly if there be any hemorrhoidal disposition. The hemorrhoidal discharge, when it appears, causes the gaseous discharge to disappear."

In cases of local irritation, pain in a particular part of the abdomen, increased at the moment of desire to expel wind, &c., a few leeches may be applied immediately over the painful part, and their application renewed, from time to time, as circumstances may seem to require. Oily embrocations, fomentations, and cataplasms, are also useful.

"2nd. *Tonics.* When by a defective innervation, arising from an abuse of debilitating regimen, or the action of any debilitating cause whatever; when by a state of relaxation of the mucous tissue, there is a feeble and insufficient action of the digestive fluids in the process of digestion, tonics are proper. I advise the use of camomile tea, tea of bitter orange peel, gentian root, &c."

"3rd. *Stimulants.* These may be employed, when one

wishes to impart a strong and immediate action to the muscular coat for the expulsion of gases. It is thus that the infusions of mint, coriander, canella, anise, sage, &c., various elixers, &c. prove useful; but in general these substances are injurious."

"4th. *Narcotics* may be very useful when, in persons of very irritable stomachs and bowels, the distention of one coat accompanies the constriction of another, as in cases of colic, cramp, &c. In these cases, I am accustomed to soothe the pain momentarily, without effecting the expulsion of any wind, with a quantity of syrup of poppies, dissolved in lettuce or orange water. * * * * * Embrocations with oil of morphine, or poppy; fomentations, well saturated with a decoction of henbane, poppy heads, &c., are useful in such cases. I am often successful with light friction, upon the parts which seem to correspond to a spasmodic constriction, with a pommade composed of equal parts of belladonna and Galieus cerate. The application of the leaves of belladonna produces, in some instances, the same result. It seems that this plant acts upon the constricted part of the intestine as it does upon the iris, or upon an orifice, the edges of which are spasmodically clasped."

"5th. *Diuretics and Diaphoretics* offer no other advantage than to direct the current of the circulation to important organs, which act as emunctories of the system, and possibly to substitute one discharge for another. But in general they are hurtful, because they are more or less stimulating to the intestines; moreover, the propriety of their administration demands, on the part of the physician, considerations which are applicable only to the particular case under notice."

"6th. *Emetics* are not admissible, except when the stomach contains a large quantity of food, or some indigestible aliment, or irritating substance, calculated to excite the mucous membrane to gaseous exhalation."

"7th. *Purgatives* are, in general, very injurious. I advise that windy persons should purge themselves as little as possible."

"8th. *Antispasmodics.* These remedies are useful when they destroy the great susceptibility, or irritability of the mucous membrane, or whenever they overcome the nervous erethism occasioned by the great distension of the mucous membrane, which the winds have occasioned by their elasticity and accumulation. Such are asafœtida, valerian, ether, musk, &c. &c."

"9th. *Topical Revulsives.* When the winds arise from inflammation, these topical medicines placed upon the limbs, but especially opposite the parts of the digestive tube diseased, produce, sometimes, excellent effect: such as sinapisms, vesicatories, &c. Cups also seem to be very useful in most cases."

CHEMICAL TREATMENT.

The author expresses the opinion, founded upon observation, that no substance exists which is capable of absorbing the gases exhaled in the alimentary canal, without proving injurious itself as an irritant. Magnesia, which many suppose acts as an absorbent, he thinks, exerts its beneficial effect by virtue of its laxative power, converting the gaseous into a liquid discharge.

"A sound theory of the formation of gases, and the correct appreciation of the generality of facts, which practical medicine affords, seems, in general, to reject these means (absorbants) as never remedying the cause, and as never having any other than an inefficient action upon the effect."

SURGICAL OR MECHANICAL TREATMENT.

"Winds may be drawn out of the alimentary canal by means of a canula or sound, to the extremity of which a syrynge or sucking pump is adapted. This procedure is easier in its application to the anus and rectum, than to the œsophagus and stomach. I have employed this means (in its application to the rectum) with success in several persons; and I have occasionally received some benefit by it myself. It is sufficient, sometimes, to introduce a gumelastic tube to the depth of several inches, in order to give vent to the wind, without any resort to pumping or sucking."

It is difficult, however, to arrive at gases in the small intestine, and not unfrequently spasmodic constrictions and feculent matter in the large intestine, prevent, almost altogether, the passage of gas, notwithstanding the use of a pump.

Paracentesis is proposed as a dernier resort.

"Finally, it is proposed, in these desperate cases, to puncture simultaneously, with a small trocar, the parietes of the abdomen and the walls of the intestinal tube at the point most distended."

A few remarks upon diet and regimen, drawn from Fodere, together with the repetition of what has been laid down as a palliative treatment, in cases requiring immediate relief, (the administration of sedatives and antispasmodics, and the external application of opiates and counter-irritants,) close the work.

We have thus endeavored to present a condensed abstract of this valuable little treatise. We know that we have profited by its perusal, and if the review here offered to our professional brethren, shall lead to the investigation of a much neglected part of pathology, our object will be fully accomplished.

W. J. B.

Selections from American and Foreign Journals.

Operations for the Cure of Stammering.—Our last files of foreign journals are filled with animated discussions, and reports of the transactions of medical societies, in relation to the several new operations proposed for the cure of stammering. The operations are those of Yearsley, Lucas, and Dieffenbach: each founded upon a different principle; and yet each professing to accomplish a cure in the majority of cases. Mr. Yearsley gives the following account of the manner in which he was led to the discovery of the operation which he recommends:

"In the practice of my department of the profession, it has been usual with me to explore the condition of the mouth and pharynx in every case of deafness committed to my care. I have thus discovered that a large number of patients suffering from deafness, are affected with enlargement of the tonsils and uvula, and an irritable condition of their investing membrane and the pharynx generally. It has been my constant practice, when I have considered these states at all contributing to the imperfection in hearing, to remove either the tonsils or the uvula, or portions of both, according to the nature of the case, with the most marked and immediate benefit, as far as the hearing may have been concerned. In December last it occurred to me to operate in this manner on two patients. They were, at the time of treatment, so deaf, that I did not then address my questions particularly to them, but to their parents, so that I was unaware of any impediment to speech in these instances. Some time after, as the cure of deafness advanced, I learned from the parents that both children had been stammerers from infancy, and, as much to my surprise as gratification, that the cure of stammering had ensued immediately on the excision of the tonsils. At the time

at which I write, the subjects of both these cases remain free from any impediment, though their stammering previously to the operation is represented to me as having been very decided. I had before this remarked that persons with enlarged tonsils were affected with thick and imperfect speech, for which I had often, during the last year, practised excision with the happiest effect, in restoring the voice to its original clearness. Since the cases above mentioned, I have operated on upwards of forty persons, all of whom have immediately felt themselves relieved of their impediment. Many have seemed wild with joy, or have shed tears of pleasure, at the instantaneous restoration they have enjoyed. After the operation, the difficulty of speech which remains is referred by the patient to the lips; they express themselves entirely free from the original difficulty. Something must be allowed for the long misuse of the organ of voice, and the existence of habit, in rendering the voice less perfect than in a natural state. In fact, after their relief, patients have yet to learn the proper use of the vocal apparatus.

"I have performed the operation by means of a scalpel, tenaculum, and scissors, without any serious hæmorrhage, and with a small amount of pain, which has appeared somewhat greater in the case of the uvula than the tonsils.

"In reflecting upon the subject, the explanation I have at present to offer is, that to produce stammering, the dorsum linguæ, the palatine arches, velum palati, and uvula, approximate together so completely, and perhaps irregularly, as to leave no room for the expulsion of air from the larynx. In a person who stammers, no air issues from the mouth during the abortive effort to speak; but it does so as soon as the patient is relieved from this state, so as to produce sound. The most powerful contraction of the abdominal muscles can be seen attempting to force up the diaphragm and expel the air; sometimes all the respiratory muscles, and even those of the body generally, are thrown into violent spasmodic action, as the individual grasps some near object to assist the expulsive effort. In some cases, when there is nothing abnormal about the tonsils or uvula, I find a great congenital narrowing of the entrance from the mouth to the pharynx."

Mr. Yearsly, it appears, has operated upon one hundred and twenty patients, of whom only three were women! the great majority of these were cured, all were more or less relieved—so say Mr. Yearsley's partisans. The London Medical Society, however, openly condems every operation, because "stammering is essentially functional," and the opera-

tions in question "are not based on any scientific basis." While the Westminster Medical Society admitting, what certainly cannot be disputed, that real cures have *occasionally* followed these attempts—particularly those of Mr. Yearsley, which are the most numerous,—starts from this point as a fact, and occupies itself more usefully in endeavoring to trace out the relation between cause and effect. The following is a brief summary of the opinions expressed by some of the distinguished members in reference to the mode of action of the operation, condensed from the Lancet.

"With regard to the extent of the operation, Mr. Yearsley, in most cases, removed the uvula entirely, chiefly with the view of throwing both arches of the palate into one. When the tonsils were so much enlarged as to project beyond the columns of the fauces, the uvula was then partially removed, and also so much of the tonsils as projected; in only one case had any thing like severe hæmorrhage took place, and in this the bleeding continued for four hours. The operation, however, might not be unattended by danger, when there was a diathesis to hæmorrhage present in the system."

Mr. Dowing, who had witnessed several of the operations, and was struck with the fact that three methods so entirely different in their character were all followed in the majority of cases by success, was disposed to consider the effect dependent on the shock to the nervous system, and the loss of blood.

Mr. Alcock also had seen many operations performed by Mr. Yearsley. Some of these were attended with *marvellous improvement*, others with great relief, while others were productive of no benefit—believing that stammering depended on a variety of causes, he could not conceive that Mr. Yearsley's method would be applicable to all cases, but had no doubt that in many it would be followed by a permanent cure.

Mr. Malyn had been present at three operations, all of which were successful, although, only in one instance, did the uvula upon inspection appear unnaturally elongated. Mr. Malyn believes that stammerers experience the greatest difficulty in uttering the labial or dental sounds, because in the effort the velum descends and hangs over the windpipe, thus preventing a sufficient supply of "material for the manufacture of words;" by the operation of Mr. Yearsley this impediment is removed, the supply of material is rendered sufficient and the stammer ceases.

The opinion of Dr. Marshall Hall is more at length and more scientific; we quote it in his own words:

"He observed, that the previous speakers had not, he thought, entered into the true line of argument. Too much had been said about the tumidity of the tonsils, and of the tongue; too little about the functional properties of the organs of articulation. Now, tumidity of the tonsils induced a certain well-known and equally recognisable thickness of the voice; tumidity of the tongue induced a special defect of articulation, but neither of these induced stammering. On the other hand, stammering was excited in a little patient of his whenever the general health was deranged. Dr. Bostock has detailed, in the "Medico-Chirurgical Transactions," a case of stammering cured by the administration of purgative medicines; and, lastly, stammering was excited as a part of chorea. These, and other facts, proved that stammering was not so much an organic as a functional defect; and the question to be agitated that evening was, what relation the excision of the uvula could have with the cure of such a malady. Dr. Hall had been witness to two cases: the first was that of Philip Wyatt; before the operation, which consisted in the removal of the uvula, the patient was asked his name; in vain he attempted to enunciate the Ph; the effort seemed to threaten convulsions; the operation was performed; the same question was put, and the ready reply was, Philip Wyatt! In the second case the good effect, though less complete, was not less obvious. Now, what could be the rationale of this phenomenon? That it could be at all connected with the more or less open state of the air-passages, Dr. Hall regards as most improbable. In many cases there was no enlargement of the tonsils or tongue, no elongation of the uvula, neither was there any want of volume or force of the expired air, when the word was well pronounced, or in the pronunciation of such letters as did not absolutely interrupt the flow of the expired air, as v., s., &c.; nor was there, as Dr. Arnott thought, any obstruction to the flow of air in the larynx itself, as he (Dr. Hall) had shown in a paper published in the "Journal of the Royal Institution," in 1831. The obstruction was offered by the organs, not of the voice, but of the articulation; not of the physical condition of the parts, but of their undue action. In pronouncing the letter b, the mouth was closed by the force on adduction of the lips, the posterior nares being closed by the veil of the palate. Long ago Dr. Hall had described stammering as an undue spinal action; the stammering of chorea proved this. He would now venture to ask, might the situation of the uvula and its peculiar contact with the parts of the posterior nares lead to a reflex spinal action? The act of

vomiting on tickling the fauces was not less marvellous or inscrutable ; the uvula in this manner might be the excitor and regulator of speech. Stammering might be induced in cases in which its posterior surface was unduly excitable. In this manner we might explain the effects of Mr. Yearsley's operation ; but Dr. Hall begged the society to view his last observation as a conjecture. Elongation of the uvula could have no effect in inducing stammering as supposed, by falling on the tongue ; for in the enunciation of many letters, as b, t, v, s, &c., it was raised, with the velum, high up, so as to assist in closing the posterior nares. Time and further investigation were, as Mr. Yearsley was aware, required to mature the investigation, to determine the special cases of stammering to which the operation was adapted. But enough had been done to excite the deepest interest in every liberal mind."

Mr. Robins had witnessed several operations by Mr. Y., attended by such success as would induce him, although he believed stammering to depend on a variety of causes, to recommend to every one afflicted with this defect to submit to the removal of his uvula.

In a word, the conclusions to be drawn from the discussion before the Westminster Medical Society are as before stated. That the operations are occasionally followed by an entire and permanent cure, more frequently are attended by relief—the relief consisting in the removal of the spasm by which the stammer is accompanied, rather than in any benefit to the stammer—while in other cases the operation effects no change.

A question of preference however exists between the operation which we have just noticed and that recommended by Messrs. Lucas and Amusat. This latter consists in a division of the frœnum, and a removal of a portion of the anterior fibres of the genio-hioglossi muscles ; the relative advantages of these two methods, and the particular cases to which each is applicale, remain unsettled.

In order to complete the history of this subject as at present before the profession, we have only to introduce the more dangerous and difficult operations devised by Dieffenbach, which we extract in the words of his translator, Mr. Travers.

"The idea lately suggested itself to me," say Dieffenbach, " that an incision carried completely through the root of the tongue might possibly be useful" in stuttering, which had resisted other means of cure, "by producing an alteration in the condition of its nervous influence, allaying the spasm of the chordæ vocales, &c." A most unphilosophical beginning,

truly, and one which speaks strongly of the discipline of the German hospitals, and possibly of the little danger of an inquest on unsuccessful practice. One thing is certain, that an idea so conceived would be regarded as most unwarrantable in its application in the British hospitals. Nor is the case improved, when he explains that the first thought of the operation originated in a patint with strabismus one day requesting to be operated on for that deformity, with a "well-marked stutter." But he continues—"the brilliant success of this new oparation more than realized my most sanguine expectations."

The principle which the professor has in view, is the division of the nervous filaments distributed to the muscular substance of the tongue, under the impression that some undue excitation in these nerves induces the spasmodic movement of the muscles. That this effect may result from the operation is more than probable; but it appears to us that the method of arriving at the end in view is exceedingly clumsy. If mere alteration of the innervation of the muscles of the organ be the object, why not, by a much more simple, incomparably less severe, and less dangerous operation, at once divide the hypoglossal nerve or nerves as they rest on the hyoglossus muscles; an operation requiring a superficial incision of scarcely an inch in length.

The author prescribes three methods of operating. "1. The transverse horizontal division of the root of the tongue. 2. The subcutaneous transverse division, in which the mucous covering of the tongue is left inviolate. 3. The horizontal division with excision of a wedge-shaped portion."

"The first operation I performed on the 7th of January, 1841. I chose for this case the method by which a wedge-shaped portion is removed from the posterior part of the tongue; for, as I have remarked, I felt more confidence in this than in the other methods.

"Frederick Doenau, a highly intelligent and talented boy of thirteen years of age, had stuttered from his earliest childhood, and to so painful an extent, that the defect was thought to be quite incurable. It varied, however, much in degree: when at the worst, he was unable even to produce a sound. He stuttered in Latin and French, as well as in his own language—sometimes one set of words, and sometimes on others. The pronunciation of the sibilant letters (s, z, ss,) and of the palatals hard (g, k, ch, and x,) was attended with particular difficulty; and he made no distinction between the hard sounds, p, t, k, and the soft ones, b, d, g, (German.) He re-

peated the same letter often four times running; and when he whispered, he stuttered as much as when he spoke loud or shouted; often he could either not speak at all, or produced only half articulate sounds. The presence of a stranger invariably affected him in a manner most painful to behold. His face became distorted; the alæ of the nose worked convulsively; his lips moved quiveringly up and down; his eyelids were expanded into a wild and eager stare; the tongue was now stiff, now played convulsively within the mouth; and the muscles of the throat, larynx, and trachea were sympathetically affected. Thus, after terrible efforts, the boy gave utterance to a mangled and imperfect word; now for a time was his speech free, and words chased one another with incredible velocity, till confusion ensued amidst the thronging sounds; and the same painful scene was thus again and again renewed. The peculiar physical horror which constitutes a stutterer, and which is excited by the effort to speak, is very similar to that which gives rise to the excitement and spasm of the hydrophobic patient at the sight of water. This internal movement might, on that account, be called phonophobia.

"The boy's mother caught eagerly at my offer to make an effort to cure him; accordingly, with the assistance of Drs. Holthoff and Hildebrant, the operation was performed as follows: The boy sat with his head leaned against the breast of an assistant; the tongue being protruded as far as possible, was grasped on its anterior half with the forceps of Muzeux, being thus compressed latterly, and drawn forwards by one assistant. The gentleman against whose breast the boy's head rested, retracted the angles of the mouth with a pair of blunt hooks. Grasping now the tongue as near to its root as possible, between the thumb and forefinger of the left hand, I passed the bistoury through it, and divided it completely from below upwards; a strong ligature passed through the posterior edge of the wound, served to fix it temporarily, and prevent too great a strain upon the slender band which alone connected the mass of the tongue to it; the anterior lip of the incision was now grasped, and laterally compressed between the modified hare-lip forceps, and a wedge-shaped slice excised out of the whole thickness of the tongue. It will be found more convenient to make this second incision from above downward, and with a small straight knife. The posterior edge of the wound was now, by means of the beforementioned ligature, and a sharp double hook, drawn so far forwards that the needles with the ligatures could be conveniently passed through it; six strong sutures served to bring

the edges of the wound together, and to restrain the hemorrhage. To effect the latter object, they must include the whole depth of the wound within their loop. That the hæmorrhage was considerable, may be imagined from the nature of the operation, which should not be attempted by all persons indiscriminately. As soon as the boy's mouth was washed out, I desired him to pronounce some of those words which he had before found especially difficult; he did so without stuttering or hesitation. This distortion of the face, however, continued; the patient was put to bed, and a cooling plan of treatment ordered. With the exception of a slight sympathetic febrile disturbance, the swelling of the tongue, that one might anticipate, and the consequent impeded deglutition, nothing remains to be noticed, so far as regards his recovery from the operation itself. His features, and his mouth especially, were still much distorted when he spoke, but the stutter had entirely ceased. On the fifth day I removed three of the sutures; during the next twenty-four hours the swelling of the tongue had visibly decreased, and I then removed the three remaining sutures. On the seventh day the wound was completely healed, the back part of the tongue alone was very inconsiderably swelled, and the boy quite re-established. At this present time, not the slightest trace of stuttering remains, not the slightest vibration of the muscles of the face, not the most inconsiderable play of the lips. His speech is throughout clear, well-toned, even, and flowing. Neither inward emotions nor unexpected external impressions, produce the slightest hesitation; he can speak, read, entertain himself indifferently with friends and strangers."

"The total number of stutterers that I have relieved up to this time, is sixteen, and those who are as yet under treatment appear to promise equally favourable results."

The following paragraph is deserving of serious consideration, not less on the part of those afflicted with the serious inconvenience in question, but also by the operator. We are informed that in an operation for stuttering, performed a short time since in London, the hæmorrhoge was fearful.

"In this operation it is more difficult to prescribe for the individual modifications of each particular case, than in the operation for strabismus, and it can never be performed by one who has not the temperament of an operator: the hæmorrhage must hold all others at a respectful distance. The extent and importance of the operation, the possible danger to life, or loss of the tongue, either through the want of skill in the assistants, who may tear it off when so nearly separated,

or through mortification or ulceration of its connecting isthmus. These are contingencies rationally to be feared, and which must be carefully weighed beforehand."

Professor Dieffenbach concludes with a few words of criticism upon the herd of imitators who follow in the wake of talent, which are worth perusing, especially as they are evidently intended as a satire upon the instrument-discoverers, and new-method incubators of squint-cutting. Thus he observes,

"Amidst the prevailing rage for modifying operations, I foresee that my having described the three principal available methods, cannot fail to open to surgeons a vast field for the discovery of modifications, and the creation of instruments. We shall have conical and oblique incisions, from the surface and under the skin! Actual and potential cautery! We shall have knives and scissors with improved curves, and a thousand variously-fashioned forceps and hooks. They will set the blades at angles with the handles to allow a better light falling into the mouth. Opportunity is likewise afforded to professional antiquaries to hunt after a name for this operation. To them I freely make over the right of baptism."

To this we may add a case reported by M. Franz, of London, who performed Dieffenbach's third operation, viz., the excision of a wedge from the root of the tongue on the first of March.

The patient (who was a young man aged 17) bore this severe operation well, but became rather faint towards the termination, and afterwards vomited large quantities of blood which he had swallowed. As soon as he had washed his mouth with a little water, I was exceedingly pleased to hear him pronounce words which, previouly to the operation, he was utterly unable to articulate; such as time, powder, &c.; without the slightest hesitation or stammering, and without any twitchings of the lips, or even convulsive movements of the muscles of the face or neck, and immediately afterwards I was surprised by his saying with facility and distinctness, "there is some blood running down my shirt." He was now put to bed, and desired to keep quiet, and directed not to be allowed to speak, and to have his mouth kept cool by means of cold water. On my calling, in two or three hours time, I found the case proceeding favourably; no reaction had as yet taken place.

"March 9th.—Has for the first time taken a walk in the open air. The movements of the tongue less painful. The mother gives a favourable account of the progress of his speech.

"Perhaps it may be as well to state that the muscles divi-

ded in this operation, are the lingualis, the genio-hyoglossi, the hyo-glossi, and the stylo-glossi."

We here leave the subject without comment; experience alone can decide upon the merits, both positive and relative, of these different operations.—*Med. Examiner.*

Observations on Vaccination and Small Pox, more especially with reference to the theory of Vaccine Influence, and the relation subsisting between the Cicatrix and the character of the Consecutive Variola. By George Gregory, M. D., Physician to the Small Pox Hospital.—The observations of the author in the present paper are intended to point out, first, the alarming increase of small pox in the metropolis, as shown by the books of the Small Pox Hospital; and, secondly, the insufficiency of the appearance of the cicatrix of the former vaccination as a test of the degree of protection afforded by the process.

Upon the first point he adduces the fact, that the admissions in the first three quarters of 1840 only amounted to one hundred and forty two, being at the rate of sixteen per mensem, while in the twenty-five days immediately preceding the reading of the paper, they amounted to ninety-three being at the rate of nearly four per diem, a greater number than was ever admitted in one month since the establishment of the hospital in 1746. Of three hundred and sixteen cases admitted in 1840, one hundred and ninety-four had not been vaccinated, of whom eighty-seven died, or forty-five per cent! one hundred and twenty had been vaccinated, of whom only eight died, being at the rate of seven per cent; the remaining two had had the small pox previouly. Of the three hundred and sixteen patients, forty-seven were under five years of age, of whom twenty-eight died; forty-five between five and fifteen, of whom nine died; two hundred and twenty-four were adults, of whom fifty-eight died. The total mortality was ninety-five, or thirty per cent. on the gross admissions. With reference to the second point, the author entered at some length into an explanation of the causes by which the many observed varieties in the appearance of the cicatrix may be explained; and presented the society with two series of well-marked cases, in the first of which severe small pox

occurred in cases presenting perfectly normal cicatrices; whilst in the second, the opposite anomaly presented itself, the lightest and truly varicelloid eruptions co-existing with small and very imperfect cicatrices. In the conclusion of this paper, the author expresses a doubt of the conclusion seemingly derived from the late experiments of Mr. Ceeley, of Aylesbury, of the identity of the vaccine and variolous poisons.

Various questions were put to Dr. Gregory after the reading of his very interesting paper, having reference to vaccination and variola. The more interesting of the points commented upon were, first, the question of the severity of the present epidemic; secondly, the proper period of performing vaccination; thirdly, the ages at which patients affected with small pox after vaccination were vaccinated; fourthly, re-vaccination; and, fifthly, the new lymph, or variola-vaccina.

As to the first, Dr. Webster contended that small pox was not at the present time so general as Dr. Gregory's paper would lead us to believe. He compared the mortality of 1838, the year of the last epidemic, with that of the year 1840, and showed by the tables of the registrar-general, that the mortality in the former was two-thirds more than the mortality of the latter year.

Dr. Gregory explained that the present epidemic did not commence until October, 1840; that of 1838 commenced in the same month, 1837; Dr. Webster would not arrive at a proper conclusion unless he limited his calculations to the last three months of 1840, and compared the deaths occurring in them with those taking place in the same months of 1837. It was known that epidemics required six months to reach their height, and as long a period to recede; that of 1837 reached its height in May, 1838; he expected the present would be most prevalent in May or June of the present year. Under all circumstances, he believed that the present epidemic was not so general as that of 1838. The Small Pox Hospital's entries and deaths had been found during the last thirty years always to bear a direct relation to the number of cases of, and death from small pox throughout London, and he considered that they afforded a sufficient field on which to found a statistical inquiry. On the second point, Dr. Gregory observed, that so long as the vaccine vesicle had all the usual characteristics, and there was sufficient constitutional disturbance, it mattered little as to when vaccination was performed, whether in the first month, or the first year of life. The difficulty of vaccinating very young children did

not depend upon want of susceptibility in the patient, but on the absence of that plumpness which was necessary to be present for the proper performance of vaccination. About the fourth month, this plumpness being usually present, was an excellent time to perform the operation.

Mr. Ceely agreed with the statements of Dr. Gregory, but believed that vaccination might be properly performed in children at the very earliest age, if the skin were merely scratched with a lancet, instead of an attempt being made to insert the lymph by means of puncturing the skin. To answer the third question there was much difficulty; all the information that could be gained from patients being merely, that they were vaccinated in early life. Dr. Gregory had noticed, however, that more cases of small pox had followed vaccination when performed at the adult period, than when it had been effected in infancy. He thought this showed that infancy was the proper period for vaccination to be performed in, and that the effects of the operation were more decided at this period of life than at the adult period, because in the former a less mass of fluid was required to be impregnated with the protective influence of the virus. The fourth month being a time when the constitution was not affected by dentition, or other contending influences, was the best period to vaccinate. As to re-vaccination, he had little experience in the matter; but this he had observed in a family revaccinated under his own eye,—that neither the age of the patient, nor the appearance of the cicatrix upon the arm, appeared to have had any effect upon the vaccination; in some there was a mere papular eruption; in others, the vesicle went through its usual course. On the fifth point, Dr. Gregory made inquiry of members whether or no they had used the new lymyh—the variola-vaccine, and if so, with what results? Was it in any way different from the lymph which had been in constant use from the time of Jenner to the present? For his own part he believed it was less certain in its results, and in this respect bore a great analogy to the small pox itself. He had found, for instance, that there was no certainty in the kind of vesicle it would produce; in one person it would be mild, in another irritable; as in small pox we found the confluent sometimes produced mere varioloid disease, and mere varioloid disease sometimes the most malignant kinds of small pox. Mr. Ceeley believed that there was no material difference in the two kinds of lymph: the

varieties observed in its effects being dependent upon the soil into whch it was inserted, and the season in which it was used.—*Trans. Roy. Med and Chirurg. Soc., in Prov. Med. and Surg. Journ.*

Results of Re-vaccination in the Deaf and Dumb Institution of Paris.—The number re-vaccinated was 128—124 pupils, whose ages varied from ten to eighteen years, and four adults, servants of the institution. Of the entire number, 60 were males and 68 were females. The operation was performed from arm to arm; the vaccine lymph was abundant; and the number of punctures made in each arm varied from two to six.

In 25 of the individuals, there neither were any traces of previous vaccination on their arms, although they had no doubt been vaccinated in infancy, nor were there any marks of small pox on their face or body. (The mere absence, however, of cicatrices cannot be taken as a proof that the parties had never been vaccinated, nor had passed through variola.) Of these 25 cases, the vaccination produced no vesicles in 18; imperfect or false vesicles in four; and genuine cow pox vesicles in three only.

Of seven individuals, who had distinct marks of small pox on their faces, limbs and bodies, the operation succeeded perfectly in two, and failed altogether in five of them.

In the remaining 94 cases, there was distinct cicatrices of a former vaccination, the number of these varying from one to four or six; in some, one or more cicatrices were observed on each arm, in others on one arm only.

Now of these 94 persons, ten exhibited distinct cow pox vesicles (after the re-vaccination,) 16 imperfect or bastard vesicles, and, in the remaining 70, the operation failed in producing any effects.

If we take, therefore, the entire number of persons "all well re-vaccinated by me," says M. Meniere, the reporter, "we find that in 15 cases only out of 128, regular cow-pox vesicles were formed over the punctures on the arms; in 20 the vesicles were imperfect or bastard; and in 93 none at all were developed. From these data it appears that the operation took effect in about the *one-eighth* of the whole; in

about the same proportion, *one-eighth*, in those who had never had small pox, and who exhibited no traces of vaccine cicatrices on their arms, although they had been vaccinated at some former veriod of life; in *one-third* of those who had had small pox in their youth; and in about *one-tenth* of those in whom the cicatrices of a former vaccination were still distinct.

In estimating these results, it may be proper to attend to certain circumstances connected with the cases.

Of the fifteen persons in whom the re-vaccination took complete effect, ten were under thirteen years of age, and the other five were a few years older. In the two young girls, in whom it succeeded after previous small pox, (which had left numerous and most distinct traces on the face and elsewhere) five years had elapsed in one case, and seven in the other, since the date of the attack. Among the pupils who had been vaccinated in their infancy, and in whom the re-vaccination took complete effect, two were twelve years, and the third was fourteen years old.

From these data, we may infer that the preservative or counteracting power of small pox does not exceed that of cow-pox; since, under very similar circumstances, those who had passed through the two diseases were submitted to the same contagious influence, and experienced nearly the same results.

But we are unwilling to draw any general conclusions from the preceding report; as we are well aware that experiments must be made on a much more extensive scale before we can, safely do so.

In conclusion, we may state, that several infants were vaccinated for the first time from the vesicles on the arms of those in whom the second operation took effect and that the virus thus obtained seemed to be perfectly genuine and active.—*Med. Chirurg. Rev.* from *Journal des Connaiss. Med. Chirurg.* Sept. 1840.

General result of the Vaccinations and Re-vaccinations in France.—There is in a recent number of the *Annales d'Hygiene et de Med. Legale* a table prepared by M. Villeneuve, the reporter of a commission appointed by the Royal Acade-

my of Medicine, exhibiting the general results of the vaccinations and re-vaccinations performed, and of the number and issue of the cases of small pox in those who had been vaccinated, compiled from reports sent from forty-one departments. The results of those reports only are given in which the vaccinators have recorded their unsuccessful as well as successful cases; and wherever the re-vaccinations were described as doubtful, they have been omitted.

We give only the totals.

Vaccinations.			Re-vaccinations after ascertained Vaccination.			Smallpox after ascertained Vaccination.	
Number.	Successful.	Unsuccessful.	Number.	Successful.	Unsuccessful.	Number.	Deaths.
30,410	28,853	560	2199	223	1976	365	8

It results from this table:—

1. That the proportion of cases in which vaccination failed, compared with that in which it took effect—estimated by some writers as one to eight, or one to ten—is not more than about one to fifty-four.

2. That of 2199 cases, in which re-vaccination was performed on persons of different ages and sexes who had been successfully vaccinated at some previous period of their lives, the operation took effect in 223 cases only—which would give the proportion of about one to thirteen or fourteen.

3. That of 365 cases of confirmed small pox, occurring in persons who had been at some previous period successfully vaccinated, there were only eight that proved fatal—giving a proportion of about one in forty-five or forty-six

We know that sporadic small pox usually carries off about an eigth or a tenth of those who are affected with it; and that, when the disease becomes epidemic, the mortality is often as high as one in four, and sometimes even higher.

M. Villeneuve, in submitting the above table as containing the results of the labours of the commission, admits that the data hitherto supplied are far from being sufficient to solve the question submitted by the government to the Royal Academy—whether it is necessary to have recourse to re-vaccination as a universal measure throughout France.—*Am. Journ. Med. Sciences.*

Rupture of the Fallopian Tube from accumulation of the Catamenial Fluid.—"Dr. Munk was requested, early on Tuesday morning, October 24, 1837, to visit R. S., æt 18, who, on his arrival, (about an hour subsequently,) was evidently *in articulo mortis.* Her pulse was barely perceptible, but extremely rapid; the skin was covered with a cold and clammy perspiration; there were low muttering delirium; tracheal rattle; the facies Hippocratica; and a continual involuntary discharge of the alvine contents. She died in a few hours.

"Upon making some inquiries into the history of the case, I was informed that she had never menstruated; that about eighteen months previously, when the evolution of the external organs of generation and the mammæ rendered probable the speedy appearance of the catamenia, she suffered from headache, pains in the back and limbs, cold extremities, and a heavy dragging sensation in the pelvic region, with some bearing down pains. These symptoms, after a brief continuance, subsided, but returned in five or six weeks; again ceased, and then returned after a short interval. This state of things continued for three or four months, the symptoms upon each recurrence remaining longer, and becoming more urgent, whilst the intermission became shorter in duration, and less perfect; so that at last there was no intermission, but manifest exacerbations occurring every fourth or fifth week.

"In January, the lower part of the abdomen began to swell; a deep-seated tensive pain was felt in the pelvis; all her symptoms were aggravated, and there was in addition occasional vomiting. She still, however, kept about her usual employment, and took, by the direction of a neighboring practitioner, some medicines, which, from the description given, I presume consisted either wholly or in part of iron. Under this treatment she got rapidly worse. On Friday the 20th, when stooping, she felt, to use her own expression, something give way within her, and the swelling of the abdomen appeared to subside, as did likewise the dragging and tensive pain abovementioned. Towards evening she complained of diffused pain of the abdomen, which, by Saturday, had so far increased that she was unable to bear the slightest pressure. There was great heat of skin, headache, knees flexed upon the abdomen, some difficulty of breathing, contracted state of the features, nausea and vomiting, with difficulty of, and intense pain over the abdomen, on emptying the bladder. This condition continued until Monday, when she passed gradually into the state in which I found her on the Tuesday morning.

"*Autopsy twenty-six hours after death.*—On laying open the abdomen, I was surprised to find a large quantity of a dark red and thickish fluid (somewhat similar in appearance to blood, which had been for some considerable time effused) lying in the cavity of the peritoneum, and amounting, I should imagine, to twelve or fourteen ounces. The peritoneum, which was everywhere in contact with it, was stained of a reddish colour. On wiping away the fluid with which it was covered, there was an evident increase of vascularity, and in some parts the membrane was covered with a thin layer of coagulable lymph. I searched for the source of this sanguiniform fluid, but for a considerable time without effect. The uterus at length attracted attention; it was considerably larger than the ordinary size of a man's fist, but, nevertheless, flaccid. Upon opening it, I found four or five ounces of a similar fluid to that in the abdomen, contained within its cavity. The fallopian tubes were enormously distended; so much so that I could with ease pass the little finger in them. Close to the fimbriated extremity of the left tube, there was a fissure about two lines in length, with rugged edges, thus forming a free communication from the cavity of the uterus to that of the peritoneum; through this the fluid in question had evidently passed. The lining membrane of the uterus was of a slightly reddish colour, depending, as I imagine, on its contact with the contained fluid. On pursuing the examination, I found an obstruction to the passage of the finger or probe through the vagina. This was caused by the opposition of the walls of the canal, and their junction by firm cicatrization. This cicatrix was from half an inch to an inch in length, and contained a hard tough substance in many respects resembling cartilage. I could find nothing at all resembling the hymen."—*London Med. Gaz., March*, 1841.

Obliteration of the Inferior Vena Cava.—Dr. Gely has recorded, in a recent number of the *Journal de la Section de Medicine de la Societe Academique du Departement de la Loire-Inferieure*, the following interesting case of obliteration of the vena cava.

Gerard, a seaman, 48 years of age, strong constitution, sanguineous temperament, was admitted towards the close of the

winter of 1838, into the hospital of Nantes, with symptoms of anasarca, ascites, febrile oppression, extreme varicose dilatation of the veins of the lower extremities, and of the abdomen, which were also excoriated over several spots. He stated that the varicose state of the veins came on during the winter of 1823, when he had the misfortune to have his legs frozen. He however recovered so far as to be able again to go to sea, where he contracted one of those cutaneous affections so common amongst the negroes. Ulcers and abscesses formed on various parts of his legs, and he was long confined to bed; the varicose state of the vessels increased; and, for the last five or six years, he had been unfit for work. After a residence of a few weeks in the hospital, he died, with all the symptoms of some serious affection of the circulatory organs.

On dissection the superficial veins of the lower extremities presented the appearance of thick cords, doubled on themselves a great number of times, in the same way, indeed, as the *vas deferens* is at its origin. This mass, as it approached the crural arch, increased in volume; but after passing this, in its progress over the abdomen, it diminished in bulk till it reached the false ribs. The varicose veins were perceptibly larger and more flexuous on the right than on the left side. The varicose vessels over the trunk of the body were the abdominal tegumentary vessels, which anastomosed on each side with a large external mammary branch, which terminated in the axilla. The femoral and iliac veins of the right side were filled with false membranes to such an extent as to diminish the calibre of the venous canal to a tenth of its natural diameter. The false membranes became more numerous as they approached the *vena cava*, which was reduced to the state of a cartilaginous cord, as far as the point where the emulgient veins unite with it, above which portion it was pervious, but reduced in diameter.

The right epigastric vein was somewhat narrowed in diameter, but that of the left side was enormously dilated, ascended towards the umbilicus, coursed along the suspensory ligament of the liver, and followed exactly the course of the umbilical vein. The two renal veins were very much dilated, and on the right side an abnormal branch opened into the *vena cava*, and was continuous with the *vena comes* of the crural nerve, which was much dilated, and seemed to receive the blood from the deep vessels of the thigh.

The heart was hypertrophied, with dilation of all its cavities; and osseous concretions were met with around the aortic and auriculo-ventricular orifices, as well as in the coats of the aorta.

This case is extremely curious, as showing the mode in which the venous circulation had been kept up in spite of the destruction of the canal of the *vena cava.* Thus, on the right side, the blood from the lower extremity, collected by the superficial veins, passed along the tegumentary veins and external mammary into the axillary vein, and from that into the superior cava; whilst the blood of the deep portions of the same limb was emptied into the *vena comes* of the saphena nerve; and from it into the *vena cava* inferior, above the contracted portion, and lumbo-vertebral venous plexus. On the left side, again, the superficial blood returned to the centre of circulation in the same manner as that on the right side; whilst the venous blood from the deep portions of the limb was poured into the epigastric vein, and from it into the sinus of the *vena portæ* by the umbilical vein.

The opening of one of the epigastric veins into the umbilical vein, and the enormous dilation of the vein which accompanies the crural nerve, and communicated with the *vena cava* inferior, were the two most striking anomalies in this case.—*Gazette Med. de Paris, Nov.* 7, 1841.

Wound of the Heart.—Professor Malle relates in his *Clinique Chirurgicale de l' Hopital d' Instruction de Strasbourg*, the following remarkable case of wound of the heart.

"A soldier, ætat. 31, was amusing himself with a comrade in firing, when suddenly his friend's gun burst, and wounded him. He fell instantly in syncope, but soon regained his senses and complained of a severe pain behind the sternum. He was carried to the hospital, where he presented the following symptoms. About two inches on the inner side of the left nipple, between the sixth and seventh ribs, there was a small wound, which gave passage neither to blood nor to air. The chest was normally resonant beneath it; the patient had some bloody expectoration: the heart's motions were obscure and the pulse feeble; there was dyspnœa: the skin was cold, the face pale, and the patient felt as if he should faint. The surgeon in attendance regarding the greater part of these symptoms as the effect of the fright, ordered some simple means. Four hours after reaction took place, and the patient was bled to ten ounces, after which the expectoration of blood completely

ceased. The pulsations of the heart, however, remained obscure, the pulse was small, and the sternal pain continued; but the face had regained its colour, the heat of the surface had returned, and the threatenings of fainting had passed away; he was bled again in the evening.

"Next day, the patient had passed a tranquil night; the pulse was fuller and regular, at 100; the face flushed but expressive of suffering; the pain behind the sternum continued; the ear distinguished at the part a kind of undulatory crepitation, something like that heard in a varicose aneurism; and there was a little crepitation in the left lung near the heart. Everywhere else the natural respiratory murmur was heard, though the dyspnœa continued; the horizontal position was irksome. The patient was again bled to ten ounces, and cupped over the heart. On each of the two following days the condition of the patient remained unaltered, and the same depletory means were repeated.

"On the fourth day after the accident he was better; he had slept four hours and had lost his faintness. He had less pain, there was no longer any râle, the pulse was less frequent and regular. The improvement continued during the succeeding days; the patient had some appetite and took some light food. The pain behind the sternum was almost gone; but there was still dulness in the precordial region; the pulse remained feeble, and he did not evidently gain strength. His apparent convalescence, though it advanced slowly, would probably have been more marked had it not been twice or three times interrupted by the patient's heat of temper and refusal of being restrained to perfect quietude. After each fit of anger, his cough became worse, the dulness in the precordial region more extensive, the pain at the sternum more acute, and the pulsations of the heart more obscure; and for every such aggravation of symptoms depletions were required and were generally efficient. He continued thus alternately improving and suffering from a return or aggravation of his first symptoms up to the forty-second day after the accident, when his condition was such as to permit a hope that his recovery would be permanent. At this time, however, he was seized, without any evident cause, with erysipelas of the left leg, with fever, &c.; his old symptoms returned with irrepressible violence, and he died on the 14th of May, having received the wound on the 28th of March.

"On examination the brain and the abdominal organs were found healthy. In the chest at the wounded part there was a cicatrix scarcely firm. The right lung presented on its ante-

rior surface and near the heart, a small cicatrix, which was also discoverable under the corresponding portion posteriorly, proving that the lung had been perforated. It was also hepatized for about four inches, and united by some slight adhesions to the pleura. The pericardium was larger than usual, and at first appeared distended with liquid. It contained about five ounces of reddish sanies, and some fibrinous clots, two of which adhered to the heart. A foreign body was fixed in the left ventricle. On closer examination this was found to be a portion of the stock of the gun that had burst; it was situated at the front and about the middle third of the ventricle; its free extremity, which was about as large as a full-sized writing quill, projecting about ten lines; the cavity of the ventricle contained a very firm coagulum extending into the aorta. The piece of wood had traversed the left ventricle and the septum, and projected into the cavity of the right ventricle. Its direction was obliqely from without inwards and from below upwards; its form was somewhat triangular, tapering irregularly from the part that projected in front to that which traversed the septum. The internal surface of the heart was red, and in parts a little softened, especially near the apex; near the valves, on the contrary, the membrane appeared slightly hypertrophied."—*Brit. and For. Med. Rev.* July, 1840.

Case of Punctured Wound of the Ascending Aorta, fatal in fiifteen minutes. By C. R. Gilman, M. D., Prof. Obstetrics and Diseases of Women in the College of Physicians and Surgeons, N. Y.

July 17*th*, 1841. Examined, by request of the Coroner, the body of M. Riley, aged 37 years. She received last evening a stab from a sword-cane in the right breast; after the wound was inflicted she was assisted into an adjoining room and laid on the floor, where she expired in about fifteen or twenty minutes. A very small punctured wound appeared on the right breast, three and three-quarter inches inward and one inch upward from the right nipple. On introducing a probe, the wound was found to pass downward and inward for near two inches, and then to penetrate the chest, passing between the cartilages of the second and third ribs, close to the ster-

num. Opening the thorax, the cellular substance in the anterior mediastinum was found infiltrated with blood, and the pericardium much distended. A small punctured wound in the anterior and superior part of the pericardium was discovered after considerable search. The sac was next laid open, and found to contain a pint or more of coagulated blood—it was quite full; removing this, a large patch of ecchymosis was found upon the ascending aorta and the arch, in the midst of which a small puncture was detected. The artery was now slit up, and the wound more accurately examined from within. It was V shaped each side, about a line in length, situated about half an inch above the valve, and equi-distant between the orifices of the two coronary arteries. There was no other wound of the internal membrane of the artery or the heart. The instrument would seem to have penetrated but not passed through the organ.

Remarks.—The points of interest in this case are the suddenness of death, and the peculiar V shape of the wound in the aorta answering very exactly to the size and triangular shape of the instrument with which the injury was inflicted. As to the suddenness of death under such circumstances, the majority of authors agree with Margagni (*Ep.* 69, *sec.* 5,) in ascribing it, not to the loss of blood, but to the obstruction offered to the circulation by the blood having accumulated in the pericardium. This, though the common explanation, is, I think, incorrect, or at least incomplete; for there are not wanting many cases where the heart having ruptured, two or three pounds of blood have been found in the pericardium, and yet life has continued for several hours. Olmi, of Florence, gives one; the rupture was an inch long, the patient lived "till next day," "a quantity" of grumous blood occupied the pericardium. Hufeland's Journal gives a case, where the rupture was half an inch internally, larger externally; the man lived three days, two or three pounds of blood were in the pericardium. A similar case is given by Dezeimeris in *L'Experience*, 1839. It is not, then, merely to the presence of a quantity of blood in the pericardium, that death is owing. The other modifying circumstance, is the rapidity with which the blood is effused. Hence death takes place less rapidly in ruptures where the heart's tissue is sound or merely softened, and where the opening is usually made in the direction of the fibres which are merely separated, than in cases where there is an opening with loss of substance from ulceration—the latter almost always proving instantly fatal. In wounds of the heart, those which bisect the two layers of fibres are suddenly

fatal, while in those which, though they bisect one layer, only push apart the fibres of the other, life continues longer: this must be attributed to the manner in which contraction of the fibres opens the one wound and closes the other. It is in wounds of the aorta within the pericardium that hæmorrhage is most free and death most sudden: the blood passes much more rapidly through the opening in the thin coat of the vessel than where it has to make a devious way through the thick paries of the heart. Even these, however, are not always suddenly fatal. In the Journal de Medicine, vol. 40, p. 435, a case is given where the patient lived to the sixth day; the aorta was penetrated near its origin. Leroux gives a case where death did not occur till the eleventh day, though the aorta and the right auricle were both wounded. This is the more remarkable, as wounds of the auricle are generally more quickly fatal than those of the ventricle. Pelletan, in his Clinique Chirurgicale, t. 1, p. 92, gives a case not fatal till after two months: the wound of the aorta was near the crura of the diaphragm. A case of rupture of the aorta is reported in the Medico-Chirurgical, April, 1840, p. 612, where the patient lived ten hours. The opening however, was not direct, the inner coat of the vessel gave way immediately behind the semi-lunar valve and close to the mouth of the posterior coronary artery, while the outer coat burst further up, where the arch emerges from behind the pulmonary artery.

The shape of the wound through the aorta in this case, is worthy of notice. The wound through the skin had no peculiarity to distinguish the instrument by which it was inflicted —it was very small and nearly circular—but that in the aorta was triangular or V shaped, and exactly answered to the shape of the weapon. This shows the importance of examining for the shape of the wound, not in the skin only, but internally, particularly when the instrument has passed through a dense fibrous membrane.—*N. Y. Med. Gaz.*

Ligature of the common Carotid Artery, and Experiments on the Ligature of both Carotids in Animals.—M. Jobert, de Lamballe, has addressed a memoir to the Royal Academy of Medicine, containing a case where he tied the common carotid to cure an erectile tumour of the orbit, and also the result of his experiments on living animals, to determine the influence that ligature of both carotids would have upon them.

Ligature of the common carotid on either side does not stop the course of the blood through the ramifications of the tied artery; how then can it effect the cure of erectile tumours of the face and head? M. Jobert replies, 1st, by the sudden subtraction of a large quantity of blood from the tumour; 2d, by giving an obstacle to the transmission of the impulse of the heart, in its full energy towards the tumour. He has convinced himself by his experiments, that beyond the ligature, the blood runs in a continual jet, waving, and without jerk (*saccade.*) His conclusions are, 1st, that erectile tumours of the orbit, destroy the bones after the manner of aneurism; 2d, they have the characters of aneurismal tumours, and are cured by ligature of the common carotid of the same side; 3d, the cure is not owing to obliteration of the artery beyond the ligature, but to diminish all impulse of the column of blood arriving in the tumour; 4th, the vertebral arteries suffice for the cerebral circulation after ligature of the carotids; 5th, dogs, sheep, and rabbits do not experience ill effects after this operation; 6th, horses on the contrary do not survive it, dying with pulmonary apoplexies; 7th, blood-lettings before or after the ligature, diminish the intensity of the pulmonary lesions; 8th, perhaps in man, the loss of a certain quantity of blood after the operation, would have good effect.—*Rev. Med. Sept.* 1840.

MM. Berard, Gimelle, and Larrey, who were appointed as a committee to examine the memoir of M. Jobert, consider it of importance; 1st, as adding two cases of cure of erectile tumours, one in the orbit by ligature of this carotid, to four other cases previously recorded; 2d, as the experiments prove the harmlessness of ligature of both carotids, in those animals whose vertebral arteries enter the cranium of a calibre sufficiently large to keep up the cerebral circulation and avoid pulmonary congestion; 3d, as it proves that the brain and the organs of the senses preserve their functions entire after this ligature; 4th, as it places beyond doubt, that animals who from their anatomical construction survive the ligature of the common carotid arteries, are not affected with lesions of the organs of the senses as described by authors; 5th, as these experiments and their results will exercise a great influence on the surgical therapeutics of diseases, for the cure of which ligature of the common carotids might be proposed.—*Ibid.*, from *Bull. de l' Acad. Royale de Med.*, Oct. 15 and 30, 1840.

THE WESTERN JOURNAL

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LOUISVILLE, AUGUST 1, 1841.

THE LEVIATHAN DISCOVERED AT LAST.

During the past year, Albert Koch, a German emigrant, has been exhibiting in St. Louis, New Orleans, Louisville, and Cincinnati, an assemblage of large fossil bones, designed to represent the skeleton of an immense, extinct, amphibious animal; which he has ascertained to be the LEVIATHAN of the Bible, and to constitute a new genus, distinct from the elephant, mastodon, ichthyosaurus, megalonyx, whale, behemoth, and all other existing or extinct monsters, either of land or sea. This happy discovery was made in the diluvial grounds of *La Pomme de Terre*, a branch of the Osage river, in the state of Missouri, lat. 40° and lon. 18° west from Washington.

According to the discoverer, the Missouri Leviathan, or Missourium, as he likewise calls it, had not only a magnitude but peculiarities, which constituted it one of the most remarkable productions of nature. Its length was 32 feet, height 15, breadth through the breast 10, and the tips of its tusks were 20 feet apart; it had no proboscis; but to make up for this deficiency, was furnished with a pair of collar bones, and was web footed! An animal of such size and

singularities, could not fail to attract us as well as all others who delight in the wonderful, and we accordingly crowded in with the crowd. Great, however, was our disappointment, in finding nothing more nor less, than a grotesque assemblage, of what in the west are called mammoth bones—in other words, a very good collection of materials for reproducing a skeleton of the gigantic mastodon (*M. Giganteum of Cuvier.*) This fact, sufficiently apparent from a first view of the monstrous superstructure, was rendered absolutely certain, by the inspection of particular bones; such for example as the teeth and tusks, the jaws, the vertebræ and the feet. But, how, it may be asked, could the Leviathan of antiquity be reconstructed out of a mastodon? We answer as follows.

The spine of the mastodon consists of 29 or 30 vertebraæ or joints; but Mr. Koch has strung on an iron wire, no less than 41, drawn from different animals, and placed them at such distances from each other, that their oblique processes do not touch; filling up the intervals with single or double blocks of wood, about two inches thick. In this way he added about 10 feet to the length of the spine, the middle of which he bent upwards: and then suspended the whole (at a suitable height to make a monster) from a strong wooden frame. He next collected 48 ribs, instead of 46, and disregarding their sockets, set their ends along the spine, mostly above the oblique and transverse processes, not neglecting to give them an upward flare. These ribs are not of greater length than those of the mastodon and do not differ from them in form. He then, building downwards, constructed a pelvis, which appears to be composed of the bones of two individuals. He did not, however, apply the articulating surfaces of the ossa ilii to those of the sacrum; but sunk them almost below that bone. Then came the thigh bones, with their heads several inches below the sockets; to which succeeded the bones of the legs, at the same respectful distance, and with their lower ends separated quite as far from the feet. In reproducing and applying the fore-legs, the same rule was followed, by which the scapulæ, instead of embracing the spine, lap over the lower ends of the ribs but a few inches. Thus it was, that he filled up the space between the suspended spine, and the platforms which support the feet. Now for the width, 10 feet from one shoulder joint to the other. This was easily obtained, by causing the ribs to project, laterally, and then not even bringing the scapula into contact with them.

As to the alledged clavicles, we saw two bones suspended by wires

in a downward direction, in front of the shoulder blades, but so far separated from each other, as to have required a sternum five or six feet in width! No sternum, however, was found with the other bones. From their height, we could not make a close inspection of these bones, but from their size and appearance, suppose them to have been the two first ribs, of the mastodon, or some other animal, possibly the megatherium, to which they bear a resemblance. At first view, we thought they might even be the recurrent scapulary processes, as those projections had been broken off. Without, however, insisting on any of these conjectures, and especially the last, we may affirm that they are not what they are here made to appear, as no animal having the kind of bones which make up this *compilation,* ever had a clavicle.

Let us descend to the feet and toes. These are precisely those of the mastodon. But the bones are not placed compactly, with their articulating surfaces in contact, but sprawled out to create interspaces, for those webs, which the discoverer coolly informs us, connected the toes together. In the fore-feet one of these toes is fastened to the lower end of the radius instead of the carpus!

We come, finally, to the head, the superior portions of which have decayed. The grinders of the upper jaw have their processes or denticules worn down, while those of the lower are entire, indicating, apparently, that they had belonged to different individuals. Over the mental foramen on the left side of the lower jaw, there is a rough amorphous, bony process, on which the discoverer lays great stress; but, as it is wanting on the other side, and manifestly never existed there, we are constrained to regard it as an exostosis. The tusks are not in their sockets, which are much decayed; but have their maxillary extremities placed near the apertures, and thence pass off, almost horizontally, with their convexities directed forward. The reason assigned for this disposition is, that they had it when discovered. But even admitting the fact, it does not prove that they had that direction during life. As their sockets and ends were both considerably decayed, they were not firmly infixed, and by a mere sinking of the upper jaw, from the superincumbent pressure, would appear to pass off in a horizontal course. In another jaw-specimen of the same kind of animal, exhibited by Mr. K., the tusk advances obliquely downwards, and forwards, having its point turned a little outwards, and upwards, as in the elephant. This was no doubt the position of the tusks in the Missourium.

The assertion that this animal had no trunk or proboscis, seems to be entirely gratuitous, and contrary to all analogy. From the height which it really had, to say nothing of that claimed for it by the discoverer, it was quite impossible that its lips could reach the ground.

We have explained the mode, in which Mr. K. has contrived to give his skeleton dimensions, which it had not in nature. But to show, in a different way, that its size is greatly exaggerated, we shall present a tabular view of some of its principal bones, and of the corresponding parts of Peale's skeleton, in the Philadelphia Museum.

We adopt the admeasurements of Mr. K. as stated in his pamphlet without vouching for their accuracy—the others are from the second volume of Godman's American Natural History.

BONES.	Koch's Skeleton.		Peale's Skeleton.	
	Feet	*Inches.*	*Feet*	*Inches.*
Length of tusk,	10	0	10	7
" " largest grinders,	0	7	0	7 1-10
Longest vert. including spinous process,	2	6	2	3
Length of scapula,	3	1	3	1
" " humerus,	3	5 1-2	2	10
" " úlna,	2	7 1-2	2	5 1-2
" " radius,	2	3 3-4	2	4
" " femur,	4	0 1-2	3	7
" " tibia,	2	4 3-4	2	0
" " fibula,	2	6 1-2	2	2

From these admeasurements it appears, that the height of Koch s skeleton, from the forefoot to the top of the scapula, is 8 feet 10 inches, that of Peale's 8 feet 3 inches—difference only 7 inches. But we know, that Peale's is not a large skeleton, as larger detached bones than any in his, have been found. Thus in 1802, Dr. William Goforth, of Cincinnati, dug up at Big Bone Lick, a tusk that measured 11 feet 6 inches. We may then positively pronounce, that the Missouri Leviathan, is not only the common mastodon, but a specimen of the *common size.*

This conclusion, so much at variance with the unqualified assertion of the exhibitor, may justify our devoting a paragraph to the theory on which, we presume, he proceeded in building up the huge

amorphous fabric, which he is now imposing on the community, as the "greatest monument of antiquity."

It is quite evident, that the task he proposed to himself, was to construct a LEVIATHAN, out of the bones he had found in the banks of the Pomme de Terre and other streams. To do this, as near as possible according to the 41st chap. of the book of Job, he places it in the water, and gives it web feet; then disposes of its tusks horizontally, separating their tips 21 feet asunder, so that it might not traverse the forest; finally, he takes away its proboscis, "so that thou canst not put a hook into his nose," (vers. 2nd,) and, because its presence would ally his monster too closely to the elephant and the mastodon for popular effect.

In his pamphlet Mr. K. endeavors to present himself as a comparative anatomist; and in his explanations to visiters he speaks as flippantly of the extinct races, as if he had been the Cuvier of the age in which they flourished; but in his advertisement we see the showman far ahead of the naturalist, as will appear by the following extract from one of them, with which we close our notice.

"This skeleton is universally acknowledged as the greatest phenomenon ever presented in natural history.

"In viewing it, the observing and thoughtful man will be lost in wonder and astonishment, at the immensity of the vast relic, and how shall we express our conception of this monstrous animal when in the full zenith of his mountains of flesh and rivers of blood, and in all the vipor of Omnipotent life, he moved in awful and terrific grandeur on the face of the earth, the sovereign masterpiece and proudest monument of all creation."

ELEPHANTS AND MASTODONS.

Having dipped into zoology, so far as to notice an exhibition of huge fossil bones, we are constrained to add a page, on the anatomical characters of the extinct elephants and mastodons, whose remains have been found in various parts of the West. To many of our readers, this may not be acceptable, because they are already acquainted with the subject, but there are others who live in places so remote, that books of zoological science seldom or never fall into their hands. To such what we propose to say may not be unwelcome.

The elephants and mastodons constitute two distinct, but kindred

genera, belonging to the family of *proboscidia*, of the order *Pachydermata*, of Cuvier—the former of these terms indicating the presence of a proboscis or trunk, the latter a covering of thick hide. We have seen both in the elephant, but neither in the mastodon; because of the perishable character of those parts. In ascribing them to the latter, therefore, naturalists have been guided by analogy. Let us consider these genera separately.

The genus Elephas of Linnæus, is characterized by eight grinders, or molar teeth, two in each side of each jaw; by two tusks, projecting from the anterior part of the upper jaw, and by a proboscis. But to make the generic character complete, we must attend to the surfaces of the teeth. These are flat, and instead of having a layer of enamel spread over them, present that substance in transverse plates, rising up through the substance of the tooth, and separated from each other by thicker plates of bony matter. The tusks are solid; and as they descend from the jaw, diverge from each other. Their points turn upwards, and consequently their convexity is directed towards the ground.

Two living species of elephant are known, one of which inhabits Africa, the other India. In addition, the teeth of another species, or perhaps, of more than one, are found both in the old world and the new. To this species, Blumenbach has given the specific name *primogenius*. Its detached grinders have been repeatedly found in the western states, in our alluvial grounds, sometimes tolerably solid, but more commonly in a crumbling condition, the bony part being converted into a friable substance almost as white as chalk. The plates of enamel are in pairs joined together, at the side of the tooth, and exhibit the appearance of the end of an elastic tube, compressed between two planes, until its sides are brought nearly parallel to each other. These grinders are worn down obliquely, so that the distance from the crown to the root, is less at one end than the other. The tusks of this elephant have not been distinguished from those of the mastodon, with the bones of which, the grinders we have described have generally been found. As yet, no skeleton has been discovered, and it has, therefore, been conjectured that the *E. primogenius* became extinct at an earlier period than the mastodon; so early, indeed, that the bones have entirely decayed. Nevertheless, we know still more of the osteology of this animal than of the mastodon, as it is, in fact, no other than the mammoth or arctic elephant found, at the

beginning of this century, embedded in ice, near the mouth of the river Lena, in Siberia.

The teeth of the genus Mastodon, differ from those we have just described, first in number, second in the form of their surfaces. They consist of four in each side of both jaws, which, however, are not all present at the same time, as the two anterior are milk teeth, and, falling out, are not replaced. The surfaces of these teeth present from two to five transverse wedge shaped projections, deeply indented in the middle, so as to give the appearance of two ranges of conical or teat-like processes—whence the name of the animal. The enamel of these grinders is not disposed in vertical plates as in the elephant; but spread over the surface, so that when the processes are worn down, each one presents a bony surface, more or less rhomboidal, surrounded with a margin of enamel. The tusks of the mastodon are solid, but generally so far decomposed as to break when removed, except they be carefully handled; their places of insertion in the intermaxillary bone of the upper jaw, and their direction from it, are the same as in the elephant.

Cuvier has recognized several species of this genus; but one of them, however, is well known—the *M. giganteum*, with the remains of which we are familiar in the western country. The others are much smaller, and no skeleton of any one of them has been yet exhumed. The bones of the gigantic mastodon have been found in every quarter of the globe; but more frequently in the valley of the Mississippi than in any other country. The size of this animal seems to have been about the same with that of the Asiatic elephant.

THE TETRACAULODON.

We shall conclude with a brief notice of the remains of an animal confounded with the mastodon, till twelve or fourteen years ago, when the late lamented Dr. Godman separted it into a new but closely allied genus. The characters of the grinders are so nearly the same with those of the mastodon, that we need not, for our present purpose, state them. The essential difference in the dental system of the two, is to be found in *a pair of short tusks in the chin, or anterior part of the lower jaw;* giving to the animal four instead of two, as in the mastodon, and procuring for it the name prefixed to this article, which signifies four tusks. The specimen from which the Doctor made his

description was small, and appeared to be young; but before his paper was read in the philosophical society, he came to the knowledge of another, which must have been nearly or quite as large as the mastodon of Peale's Museum. Since the death of Dr. G. his friend Dr. Hays, has read a paper to the same society, in which he confirms this discovery, and endeavors to show that more than one species existed.

We trust that such of our friends as have the good fortune to meet with lower jaws of what are called mastodons, will examine for these small tusks, or the sockets from which they have fallen out.

D.

MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA.

The very respectable Professor Dickson, has favoured us with a copy of the annual announcement of the college, with his valedictory address to the class. The number of students in the late session, was nearly 150; of whom 41 were from seven other states of the South, chiefly North Carolina and Georgia, all the rest from South Carolina. The number of graduates was 51, of which 41 were from the state. The last class of the Medical Institute of Louisville, consisted of 208, but 71 of whom were of the state of Kentucky, the remaining 137 from 14 other states. More than two-thirds of the whole class in the former, were of Carolina, while only about one third in the latter, were of Kentucky, a point of view, under which the two schools differ in a very remarkable degree. In every thing, the palmetto state seems to be exclusive. There is another difference in the statistics of these institutions. The former graduated 51 out of less than 150—the latter but 48, of 208. From this we infer that a larger proportion of the students of the South, continue their university studies till graduation, than of the West.

But we must leave these statistics and the train of reflections which they start, to say a word of the Professor's valedictory. Many of these addresses, including our own, have in them scarcely any solid substance; but no complaint of this kind can be made of that before us. With very few exceptions, it abounds in most wholesome and perti-

nent advice, uttered in a style of great purity and polish. We were particularly struck with the elevation of its moral and religious views. The author's exhortation to "mildness, gentleness, and courtesy, mingled with a dignified self-respect," and his admonition against carrying or using concealed weapons, are worthy of a guardian of young men, destined to labour in the very bosom of society, at a most honorable vocation. But why should he have passed by duelling? It is impossible for us to believe, that the author of an address which breathes such a pure and peaceful spirit, can approve of that savage custom; or that a man of his high intellectual endowments can admit its necessity to the well being of society. D.

DEATH OF PROFESSOR WAGNER.

Having corresponded occasionally with Prof. Wagner, of the South Carolina College, for the last fifteen years, it was with more than ordinary regret, that we lately heard of his decease. The particulars have not yet reached us. His successor, we understand, is to be the learned and able Dr. Geddings, who will be transferred from the chair of Pathological Anatomy to that of Surgery. D.

MEDICAL SOCIETY OF TENNESSEE.

In a former number, a fuller notice of the doings of this society, at its late meeting in May, was promised, and as a fulfilment of that promise, we have since devoted much of our space to the papers read on that occasion, deeming this the most satisfactory account that we could present. It is not, we confess, without some misgivings, that the first article in this number is published, and our readers must find our apology for it in the fact, that the very respectable society before which it was delivered requested its publication. It is our purpose to make the Journal as practical as we are able, and such a discourse,

we are aware, however interesting the great topic of which it treats, cannot lay claims to this character. Even the request of the society we might have felt ourselves at liberty to disregard, if it had not been backed by a scarcity of matter which left us but little choice in the selection of articles. Our contributors, we are sure, will not often allow us to offer the latter apology. Y.

THE VAPORS OF NITRATE OF POTASSA IN ASTHMA.

I have lately met with some cases of asthma, in which great relief was derived from inhaling the vapors arising from the decomposition of nitrate of potassa. The patients, after saturating white paper with a solution of the nitrate, and drying it thoroughly, set it on fire, and, dropping it into some close vessel, inhale the gases evolved by the combustion. A teapot answers well for the purpose, but it is sufficient to drop the ignited paper in a common glass tumbler, applying the mouth to it while it is filled with the vapors. The relief has been manifest in several cases, and in one, complete. The subject, a gentlemen aged 55 years, had been afflicted with asthma for more than twenty years, the paroxysms of which were marked with all the distress that attends that disease. For five years past he has been exempt from it, and his restoration he attributes entirely to this remedy. He was in the habit of carrying with him, in his pocketbook, paper prepared for the occasion, and of resorting to the fumes whenever he was threatened with an attack.

A lady, of about the same age, has derived great benefit from these inhalations, in the same disease. The paroxysm is always shortened, and greatly mitigated, by a resort to them.

At present, I have a patient under my charge, laboring under a pulmonary affection, one of the most afflicting symptoms in which is dyspnœa. For this, he has been inhaling the vapors of the nitrate for some days, and the result is, that he expectorates with more freedom and ease, and his breathing is much improved. In his case the remedy does not promise so much, as there is reason to fear the existence of organic lesions. Y.

TUBERCLES DEVELOPED BY INTERMITTENT FEVER.

The development of tubercles, it is well known, is favoured by whatever causes impair the healthy tone of the system. Tubercular consumption, for a year or two past, has been more common than usual in some parts of Tennessee, and it is worthy of remark, that intermittent fever also prevailed in those places, to an unusual extent during the last two autumns. Visceral obstructions have attended many of these cases of intermittent, rendering the cure difficult, and where the chills have continued to recur through the winter and following spring, phthisis has been but too frequently the consequence. This, indeed, is now one of the most dreaded of the sequelæ of intermittent fever in that region of country, and increasing the necessity of arresting the disease as early as possible. In a former number we have spoken of the preparations of iron as adapted to cases of obstinate and protracted chills and fever, removing the anemic condition of the system which attends upon them; and we have now, upon the authority of some of the practitioners of Tennessee, to mention the sulphate of copper as a remedy which has been found superior to the salts of iron in this form of the disease. Y.

LITHOTOMY.

This operation was performed with complete success by Dr. Debow, of Hartsville, Tenn., on the first day of last May. The subject was a negro boy, belonging to Mr. Stubblefield, four years of age. The stone removed was as large as a pigeon's egg, and was of the fusible variety.

Dr. Debow is one of half a dozen young surgeons in Tennessee who have operated for stone in the bladder, within a few years, and with a success not surpassed by veteran surgeons. Of five and twenty such operations, performed upon patients of all ages, which have come to our knowledge, not one has had an unfavorable termination.

Y.

THE WEATHER.

The range of the thermometer, this summer, has been high. In June, for many days, it rose regularly above 85°, and not unfrequently exceeded 90°. Once or twice it was seen as high as 93°. In Rutherford county, Tennessee, cholera infantum made its appearance during the first fortnight of this hot weather, and a number of cases have been so bad as to demand the attention of a physician; but a majority yielded to the domestic remedies prescribed by the parents, or to an occasional dose of calomel. In a severe case, which we saw, the most signal and immediate relief was derived from allowing the little patient to eat freely of ice. The incessant retching with which it had been tormented ceased in a few minutes after it had begun to swallow the ice. It is now perfectly restored. In another case, we thought the stage of convalescence was hastened and confirmed by the use of the prussiate of iron. Y.

THE LOUISVILLE MEDICAL INSTITUTE.

As usual, the dissecting rooms will be opened on the first of October; and in addition to giving the ordinary instructions in dissecting, the Demonstrator of Anatomy will deliver, during the month, a course of lectures on Surgical Anatomy. The Professor of Surgery also, will deliver lectures on diseases of the eye, strabismus, and club-foot. We think that students will find it greatly to their advantage to spend a month in this way previous to the commencement of the regular lectures. H. Miller, *Dean.*

DUNGLISON'S AMERICAN MEDICAL LIBRARY.—NEW SERIES.

We have received the first number of the new series of the Library and Intelligencer. It will be issued, hereafter, once a month, instead of semi-monthly, and at $5 a year, instead of $10. The well earned reputation of the editor, and "the high character it has hitherto sustained will be a guarantee of its future excellence."

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THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

SEPTEMBER, 1841.

Art. I.—*An Essay on Bilious Fever.* By Lunsford P. Yandell, M. D.

Sanos sospitare agrosque sanare.

Bilious Fever is a most prevalent disease in the valley of the Mississippi. It is, also, a most fatal disease. It carries off the infant at the breast, the old man, the tender youth, the young man, and the man in the prime and vigor of useful life. It is the *Great Destroyer* in all our south-western States. The best minds of the medical profession have been devoted to its study, and to the means of subduing it, in both hemispheres, and on both sides of the line; but yet it remains unconquered. We have ascertained, pretty accurately, the circumstances under which it takes its rise, and are generally agreed upon the name of its imaginary cause; great im-

provements have, also, been made in the mode of treating it, and higher success crowns the efforts of modern practitioners; but, despite all, it continues often to prove fatal, and in one of its forms, is still the terror of south-western physicians.

Aetiology.—Nothing in regard to Bilious Fever is better settled, than that the poison which generates it is developed by the drying up of ponds and water courses, in a fertile region of country, under an ardent summer and autumnal sun. Wherever moisture is present to co-operate with organic matter in warm weather, there is decomposition going on, and there is found bilious disorder—especially by the bottoms of streams or ponds recently exposed to the air and the sun, does the poison of fevers seem to be eliminated. The draining of a mill-pond, if done late in summer, or in the fall, hardly ever fails to spread miasmatic diseases far and wide among the inhabitants of the neighborhood. The following is an instance, in point, which has never been published:—The proprietor of a mill on a small stream in Ohio was in the habit, every year in early summer, when the waters became low, of draining the pond, by raising the flood-gate. No injury to the health of his neighbors resulted, so long as the draining process was confined to early summer: the inhabitants of a village bordering upon the stream were not particularly subject to fevers. But during a wet summer, in 1839, as the stream continued full, he was induced to postpone draining the pond until late in August. The consequence was, that a most formidable fever broke out in the village, and prevailed to an extent before unknown in it. The owner of the mill was compelled to draw off the water, next spring, the pond having been condemned as a public nuisance, and the summer which followed was one of health in all the surrounding neighborhood.

The droughts of our summers, by exhausting the streams and exposing the deposits of organic matter on their margins and in their beds, are known to all practising physicians

to be the almost certain harbingers of fever in some one of its varied forms. And in reviewing the record that we have kept of our cases of fever, we are able to trace nearly every one of them to the borders of some pond or stagnant stream. Year after year, we find that our autumnal business has been almost wholly confined to the vallies of the neighboring creeks and rivers.

In the neighborhood of Louisville, and particularly to the South, lies an extended district of flat country dotted all over with ponds; it is called the "Pond Settlement." In the spring, and during the early summer, this region is salubrious, for the ponds, as yet, are full of water. But when they begin to be exhausted in July, and their beds send up exhalations under the solstitial heats, fever, in every shape, rarely ever fails to attend. If this district ever escapes this unwelcome visitant, it is in a rainy season when the ponds are kept full. In an early day, and, in fact, until within a late period, this city was regarded as one of the most unhealthy places in the valley of the Ohio; but such has been the beneficial effects of draining and tillage, that it would now compare, in the healthfulness of its citizens, with any other river town in the West. This is particularly true of the central and densely settled parts of the city. The suburbs continue to be visited by fever. A line might be traced around the city marking the limits of the healthy atmosphere, and the point at which malaria begins to assert its authority. Within certain limits the air is pure, but beyond these, on the three sides of the town exposed to the miasms of the ponds, it is still unsafe to reside. The explanation of these facts is easy. The inhabitants in the interior are remote from the source of the poison, and are, moreover, protected by the intervening buildings; whilst those who dwell on the frontier inhale the poison emitted by the ponds that have not yet been drained. As the draining progresses the boundaries of health are found to be sensibly and rapidly extended, and the region upon which the pestilential vapors have so long rested, like a dismal incubus, promises to become, in a few years, under a ju-

dicious system of ditching and culture, one of salubrity and great value. The environs of Louisville only require to be rid of the stagnant water which remains, to be rendered as healthy as Main street, which was as often visited by malignant fevers as they now are, while large ponds exposed their filthy waters to the sun, in quarters now covered by pavements and houses.

It is interesting and instuctive to remark, how coincident are all the circumstances attending the rise and propagation of bilious fever, in countries so remote as Italy and the Valley of the Mississippi. In following the historian of the Campagna di Roma, one cannot fail to be struck with the exact identity of the causes which have desolated that remarkable region, and are traced everywhere in this country as exciting malarious diseases. The Campania, we learn from Roman history, was once a densely populated and beautiful country—the site of the thirty cities of Latium with its dependant villages. It is now nearly a wilderness—a long series of wars with their Roman neighbors laid waste its fields, depopulated its villages, and exhausted the resources and energies of the remnant of its people. As a consequence, the mountain streams, which industry had confined to narrow channels spread unchecked over the low valleys, and formed anew the lakes and pools which had long been dried up. The pestilence followed quickly on the footsteps of war, to complete the work of desolation. A poisonous atmosphere was gathered over the Campagna, and spread its baleful influence far around. Town and village gradually disappeared, until the sites of many of them could scarcely be distinguished. The progress of depopulation was at first so slow as to be almost imperceptible. "The outskirts were thinned by fevers which, returning at the return of mid-summer or of autumn, gradually compelled the inhabitants to retire towards the centre of population, or remove at once to more elevated and salubrious situations. By degrees the range of the disease extended, drawing a narrower and still narrower circle around

the fated spot. Years might pass away before its hold was made secure, but its violence was redoubled as it approached the centre, until one or two seasons were sufficient to complete the work of destruction."*

But the Campagna thus desolated by malaria revived, when Rome, carrying her conquests beyond the confines of Italy, became the centre of a great empire, and wealth, with all its attendants, flowed in upon her. People revisited its deserted fields, and rebuilt the villages. Its streams were guided once more into their proper channels, and the stagnant pools ceased to send up their noisome effluvia. Luxuriant harvests covered the beds of exhausted marshes, and the villas of some of the first citizens of Rome crowned many of the heights of the region where the pestilence but a few years before had held undisputed sway. And in this prosperous state the Campania continued, so long as Rome remained the seat of empire. But with the removal of the Popes to Avignon commenced a new period of decay. The villas were abandoned to the charge of indolent agents and slaves, and fell gradually into ruins. Many of the villages were deserted, and smitten by the reigning spirit of luxury and effeminacy, and galled by an iron despotism, all lingered on in a doubtful and precarious existence, until the inroad of the barbarians completed the ruin of the country. The population of Rome itself dwindling down to seventeen thousand souls, the Campagna was deserted, except by a few miserable beings who dragged out an existence of thirty or forty years, rarely ever reaching sixty.

And thus, with the neglect of its culture, and the accumulation of water upon its surface, the Agro Romano sunk again to the lowest point of desolotion. The facts are deeply interesting to the medical philosopher. It is seldom, indeed, that we are ever able to trace more satisfactorily the connexion between the phenomena of disease and their causes. And it is not the least interesting fact in the history of this country, that, since the removal of the Papal Court to Rome again,

*New-York Review.

there has been a gradual improvement in the salubrity of the Campania—that event being followed by the return of laborers to its fields, and the draining of the Pontine marshes by Pius the 6th. That immortal enterprise, the writer from whom I have quoted remarks, had it been followed up by the draining of other portions of the Agro Romano, might long since have reclaimed it. Enough was done to show where the evil lay, and to indicate the mode of removing it.

The malaria, it is well understood, is confined to the lowlands of the Campania. High situations are exempt from it; and it would be easy, it is stated by writers who have visited it, to form a scale presenting, at different points of elevation, the gradation of noxious, bad, suspicious, passable, good, and, finally, excellent air. Monte Mario, at the gates of Rome, is healthy throughout the year. The village of St. Oreste, which stands midway on the ascent of Mount Soracte, and yet is desolated by autumnal fevers, seems to be an exception. "Here, however, the peculiar structure of the mountain itself affords an explanation of the variation. It is a solid mass of nearly naked rock, with but here and there a scanty growth of shrubs and low wood to shelter it from the exhalations of the marshes below."

The unhealthy season at Rome commences not until towards the middle of July. The shepherds remain with their flocks through nearly the whole month of June, taking the remainder of this interim of good air to gain the mountains by slow marches. By this time the smaller streams and shallow pools are dried up, and the two rivers, the Anio and the Tiber also load the air with noxious exhalations. The degree of unhealthfulness of any particular season depends in a great measure upon the autumnal rains. When these are delayed or scanty, the fever obtains a stronger hold and spreads with greater rapidity. But an early and great fall of water produces an immediate change in the atmosphere, not only cooling but purifying it, and by renewing the half-drained streams covers up the reeking sources of malaria.*

*For these details concerning the Agro Romano, I am chiefly indebted to a spirited writer in the New York Review.

I fear the reader will deem that I have devoted too much space to the history and physiognomy of a region so remote from the scene of his professional labors. All that I can say is, that the interest of the subject has appeared to me to justify the length of the details. The Campagna di Rome is not only famous for the malignity of its fevers, but as having been longer the seat of febrile diseases than any locality of which we have any authentic history. Long before the time of Cicero and Pompey, it had been desolated by the poison which constitutes the scourge of the magnificent valley of the West. And, after the lapse of more than twenty centuries, the same malaria continues to hover over its plains, and to walk in darkness through its villages and cities. The Campania has twice been rendered salubrious by a wise system of draining and tillage; and twice has it been yielded back again to the dominion of the pestilence. Health has followed the footsteps of industry, and, with the return of barbarism or indolence, the waters have spread over the plains unchecked, and fevers have returned with all their pristine malignity.

To all this we have many analogies at home. I have cited the case of the city of Louisville, where draining and cultivation have, in a few years, introduced the most favorable changes. The clearing away of the forests, with a consequent exposure of a soil, rich in the remains of organic matter, to an ardent sun, on the other hand, has been a prolific source of febrile disease in all the south-western states; for the barrier which trees oppose to the spread of malaria has been removed from the water courses, and the noxious exhalations from water, as well as from the virgin soil turned up by the plough, have contributed to taint the air. Along all our streams disease is known to have become much more prevalent, since the shrubs and trees fringing their borders were cleared away. I remember a beautiful country seat, in one of the Western states, which lies near a small river that becomes stagnant in summer and autumn. In early times, and while the river was yet surrounded by a dense forest, the locality was one of the most healthy in all that neighborhood. A case of fever, for

some years after a large family settled upon it, was of rare occurrence. But as the fields were extended and the forests removed, the visits of this malady became more frequent. The trees which once stood between the dwelling and the river have now been hewn away, and the winds, laden with the seeds of disease, meet with no obstruction. The place is subject to autumnal fevers of a malignant type. This is but one of innumerable instances that might be cited; but so familiar must the observation be to all practitioners, that it would be superfluous to multiply examples. The river to which I have just referred is quite noted for its insalubrity, and it is worthy of remark, that it is also the site of a great many mills. From the point where the first mill is erected, to the mouth of the river, hardly a healthy situation in the neighborhood of it can be found.

Another fact, connected with the propagation of miasms, of the highest importance, is their dependence for transmission upon the winds. A house built upon the eastern, or the north-eastern bank of a river or pond, receives the prevailing winds after they have swept these sources of malaria, and will be more unhealthy than one which stands in a southern or westerly direction from such collections of water. Houses so built as to expose their open doors and windows to the breezes coming over stagnant water or marshes, are more subject to fevers than those in the same village, on the same street, which oppose their rear, with closed entrances, to the wind. This is the statement of historians with regard to Rome, and it is the experience of all towns and villages where febrile diseases have been generated by collections of stagnant water. In Rome, we are assured, that the interposition of so slight a barrier to the poison, as a piece of guaze, spread over the window-openings at night, will protect the sleeping inmates; whilst those who sleep with their windows open, and without such defence, in the direction of the marshes, are almost sure to be attacked by fever. In all parts of the Western country, situations to the south of streams, especially if elevated, are comparatively healthy; those which lie as far from

the water, north, being unhealthy. Situations east, and north-east, are subject to fevers; and the explanation is found in the fact, that the south, and south-west winds are prevalent in summer and autumn, with an interchange, occasionally, of a breeze from the north-west, later in the season.

If upon this branch of my subject I seem to have dwelt at undue length, my apology is, that it involves principles of the deepest importance to the community. "*Sanos sospitare, ægrosque sanare,*" I have adopted as my motto, and I hold the first to be, not less than the last, the duty of the physician. The public health is a matter of such vast concern, that one may well be pardoned for a little prolixity in the detail of facts which have an intimate bearing upon it. And, if I am not greatly mistaken, I have indicated, in the history I have given of the rise and propagation of malaria, the mode by which the range of the diseases it produces may be greatly limited. Let the hygienic precepts that they suggest be properly inculcated upon the people, and they will be more industrious in removing the sources of miasmata. Let them be taught that fever is the sure penalty annexed to a residence on certain banks of water-courses, and that it may, with great certainty, be avoided by selecting a site at a distance from them, and it is not probable that they will persevere in violating so obvious and salutary a principle. It is not saying too much to assert, that, by the observance of the laws which experience and observation have established on this subject—by planting and draining, by cultivating the soil, and by the selecting of proper sites for dwellings—half the fevers might be prevented which now afflict the country, and annually rob it of many of its best citizens. I speak with the greater earnestness in reference to these things, because, while the truth of all that I have said is generally known and admitted by medical men, they do not appear to me to have exerted themselves as they might have done, to reform the people on these points of hygiene. To my mind, it involves truths of the deepest practical import, and it is only by impressing them upon individuals and the public authorities that we can hope for reform, and the improvement of the general health.

I am aware that it is contended by some, not without plausibility, that there is *no specific cause* of fever; but that it is excited by vicissitudes of atmospherical temperature, and by the chilling effects of the vapors condensed into fog by the coolness of the evening. But the fact, that fever has a specific type—as distinct and peculiar as small pox or measles—that houses, in particular situations near water, are healthy, while others, not nearer, but to the leeward, are unhealthy, both being alike enveloped in the fogs arising from the water—that in places once famed for their insalubrity health has been brought about by draining, while the air continues to be surcharged with aqueous vapor exhaled from the neighboring streams, as is strikingly true of a city to which I have already alluded*—and that the draining of a mill-pond, by which the quantity of atmospherical moisture in its vicinity is diminished, taints the summer and autumnal air in all the surrounding region—all point to a specific cause. And this cause we continue to refer to marshes, or the exhalation of moisture from a bed of putrifying organic matter; but we are compelled to admit, at the same time, that this poison has never been detected by any chemical test as a constituent in the atmosphere of infected places. Broschi directed a long series of cautious experiments to the solution of the problem; and in the air of one of the most pestilential regions in the Campagna di Roma he thought, by his first analysis, he had detected the miasmatic particles. On renewing the experiments, however, and collecting the vapor with new precautions, he was unable to discover the slightest trace of either vegetable or animal matter. Moschati examined the air of some insalubrious rice-fields in Tuscany, from which it appeared that it contained albuminous flocculi, but the nature of which he could not determine.† Prout, in his Bridgewater Treatise, mentions that, during the prevalence of cholera, in London, he found the atmosphere to be increased in weight, and stead-

*Louisville.

†Records of General Science, quoted by the American Jour. of Med. Sci. for Nov. 1836.

ily so, and the explanation of the fact he supposes to be, that some gaseous body was diffused through the air of the city, considerably heavier than the air it displaced; but the character, and even the existence, of this gas, was a matter of conjecture. M. Rigand de l'Isle made a series of experiments in the marshes of Languedoc with a view of detecting the poison of fever. He condensed the dew upon glass, and, like Moschati, found flocculi possessing the properties of animal matter, but without being able to prove that he discovered the miasm.* A more laborious series of experiments were instituted by Boussingault, with the same view, and although he detected organic matter in the vapor over the marshes, he was not more successful than the preceding chemists in insulating the peculiar poison. I will only add, that such has been the result of other investigations, instituted with a view to the discovery of this most prevalent but hidden poison, which, as we have seen, is as rife and as potent now, in the marshes around Rome, as it was in the time of Tacitus, and which all that has hitherto been done by the hand of industry in our south-western valley has not materially abated—I ought, perhaps, rather to say, that the amount of cultivation in the West has only fully developed the poison, which a higher cultivation may subdue; and with this remark, I dismiss the first branch of my subject.

PATHOLOGY OF FEVER.

This is one of the vexed questions of the day. It is not my intention to present a history of all the theories of fever which have been proposed in the various ages of Medicine, much less to attempt an estimate of their several merits. This I should deem a most unprofitable consumption of time; and I shall therefore confine my remarks, on this head, to the two most prominent of the modern theories, the anatomical theory of Broussais, Louis, Bouillaud, Bretonneau, &c., and the

*Ib. loc. citat.

congestive theory of Armstrong, Johnson, and others, presenting afterwards, a view of the phenomena of fever as they appear to be successively developed. I shall speak first of the congestive theory.

According to Armstrong, the essential or proximate cause of fever consists in a congestion of the internal veins of the body, and particularly those of the portal circle. It was a belief expressed in his earlier writings, that, in the pathology of fever, the right side of the heart would come to be the only structure worth studying. The *vena cava*, in this view of the matter, is the seat of the primary morbid action. The heart is enfeebled by the malarious poison, in consequence of the deteriorated character of the blood, which has become black by the action of the miasm, and fails to supply the heart with its natural stimulus. Hence it accumulates in the large veins for the want of power in the heart to propel it forward. Congestion, in the view of those who adopt the hypothesis, is the great evil—the *causa sine qua non*—which being removed, the fever ceases.

To this theory, whatever may be the arguments in its favor, there is an objection that I cannot help regarding as fatal to it—which is, that the results of *post mortem* examinations do not reveal such a condition of the venous cavity. In a large majority of cases subjected to the test of the anatomist's knife, the liver has not been found in a state of congestion, or as exhibiting any morbid lesion. True, in nearly all fatal cases of fever, traces of congestion or of inflammation are to be seen in some of the abdominal viscera; and often, also, in the organs of the chest and of the head. But, so far as I have had opportunity to compare the histories of such cases, as given by the writers of all the conflicting schools, I have not been able to discover, that deep congestion of the vena cava, or of the portal circle, is by any means a uniform appearance. On this point, the testimony of Dr. Bailly is very full and striking.* This eminent physician visited Rome in 1820, 1821,

*Traitie Anatomico—Pathologique des Feivres Intermittentes, Simples et Pernicieuses. Paris, 1825.

and 1822, for the express purpose of studying the malignant fevers of that country. He has recorded the histories of thirty-six fatal cases of what he terms *malignant intermittents*, but which, in this country, would be called *congestive fever*. They exhibited, in their progress, every mark of deep congestion. Many of them terminated in twenty-four hours. The bodies of the patients were of an icy coldness. Some of the victims were comatose almost from the beginning, and others were foolish, like men intoxicated. In some, there was complete prostration of the muscular powers; but others were able to walk about their rooms only a few hours before death. In all, great coldness of the surface was present—a general shrinking of the features and extremities—the pulse was not to be felt at the wrist, and, now and then, not even in the carotids:—in all of which we trace the strongest resemblance to the character of our own congestive fever.

Of the thirty-six fatal cases recorded by Dr. Bailly,* the autopsy discovered arachnitis in 25; in 19, gastro-enteritis; in 18, splenitis; in 3, diffluent spleen, and in 3, ruptured spleen; in 13, cephalitis; in 7, gastritis; in 7, enteritis; in 5, *alterations of the liver*, of which, one was by inflammation, two by congestion, and two by putrilaginous softening. Pneumonitis, pericarditis, peritonitis, and inflammation in other parts were detected in many cases. From these statistics we see, that the tissue which suffered most frequently was the arachnoid membrane. If, however, we add the seven cases of gastritis to the nineteen of gastro-enteritis, we have twenty-six cases in which the stomach suffered. In every instance, inflammation in some part of the contents of the abdomen was discovered. In thirty out of the thirty-six cases, there was inflammation of the brain, or of its arachnoid membrane, conjoined with inflammation in some part of the digestive canal. The liver was found in abnormal condition in but five of the whole number, and congested in but two.

I will not undertake to affirm, that the experience of all

*Quoted by Dr. John Bell. Lectures. Phila. 1840.

writers on this subject is equally unfavorable to the congestive theory. Dr. Davis, for example, says, "dissection has shown that the organs primarily affected are the liver and the spleen. In subjects who have expired of this disease, even in the early stage, these viscera have always appeared to be materially altered in their structure."* Cleghorn says, "I have examined the bodies of nearly a hundred persons who perished in these fevers, and constantly found one or other of the adipose parts in the lower belly (the cacol, mesentery, colon, &c.) of a dark black complexion, or totally corrupted; the *vesica fellea* full and turgid, and the stomach and intestines overflowing with bilious matter; the spleen larger and sometimes weighing four or five pounds, and so excessively soft and rotten, that it had more the appearance of coagulated blood wrapt up in a membrane, than of any organical part."† Still, I cannot refrain from remarking, that the statistics furnished by Bailly appear to my mind to amount, as regards that theory, to an *experimentum crucis*. If congestion be the *foris et origo* of fever, how could it have been absent in so many of these cases? And if present, to hurry on the cases to the catastrophe, how are we to account for the disappearance of it, so soon after death? If the liver bear so much of the *onus* of febrile disorder, as is maintained by the advocates of the congestive doctrine, why do we find it, at the end of the worst cases, so often in a sound condition? Is not the inference irresistible, that, being sound, it is guiltless of the mischief, either as the primary cause, or as involved secondarily, and contributing to maintain the morbid action?

In Dr. Bailly's cases, the spleen, of all the organs, gave the most frequent proofs of congestion; for in twenty-three cases out of the thirty-six, it was in this state, or in a state of congestion conjoined with inflammation. The congestion, in a few instances, had progressed to the point of breaking up the tissues of that organ. Dr. Shapter, in the Library of Practical Medicine, also testifies to the frequency of lesions of

*On the Walcheren Fever.
†Diseases of Minorca.

the spleen in fatal cases of intermittent fever. According to all the authorities, indeed, this organ appears to be singularly often affected. But it were easy to show, I think, that this condition of the spleen is a consequence, and not the cause, of the febrile commotion. Who, for example, has not seen cases of enlarged spleen without fever? This viscus occasionally becomes so much increased in size, in consequence of repeated attacks of ague, as almost to fill up the abdominal cavity. And yet it is well known, that with all this congestion of the organ, fever is by no means the invariable attendant. That it sometimes is, will not be denied; and that such a condition of the spleen adds to the difficulty of curing intermittents, all physicians have experienced. But it is as well known, that the chills may be checked, and temporarily, if not permanently, cured, while the spleen maintains its unnatural size. The two parts of the argument then, are, that the spleen may be enlarged without exciting fever; and that where they are conjoined, the fever may be relieved without removing the congestion of the spleen. And a distinct argument is, that the spleen is not invariably found in a diseased state at the close of congestive fevers. Why it should be often so is easily explained. During the chill, which precedes all fevers, the blood is accumulated in great quantities in the spleen by the very nature of its circulation. This organ is of a peculiarly loose, spongy, and vascular texture. In intermittent fever the febrile reaction is very great, and the engorgement of the spleen returning with every paroxysm, in the end, its structure can hardly fail to become altered. The morbid state thus induced in it, as an altered condition of any other organ, will react upon the irritated nervous system, and become, secondarily, the means of keeping up the morbid commotion. In like manner, congestion of the liver becomes a source of mischief, as must local lesions in whatever important organ existing.

According to this view of the subject, it is unphilosophical to regard hepatic congestion as the cause of fever, and, consequently, to address all our remedies to the liver.

I shall next inquire whether, by the same course of reasoning, gastro-enteritis, arachnitis, &c. are not excluded as the essential cause of fever. Some of these lesions attend all fatal cases of the disease, according to the experience of every pathologist, and probably contribute largely to the fatal termination. But do they not very often occur independently of fever, and run their course without developing that disease? Is it not a matter of daily observation, that gastritis, and inflammation of the intestines may exist, and yet every pathognomonic symptom of bilious fever be absent? In dysentery, cholera, gastritis, diarrhœa, &c. the symptoms are specific, but not those of miasmatic fevers. Arsenic or the other irritating poisons excite gastro-enteritis; but in such cases there are not the regular, well-marked paroxysms of fever. In dyspepsia the stomach is often in a state of sub-acute inflammation; yet this inflammation is far from developing an intermittent or remittent fever. Fever and such local lesions coexist; but these points of irritation, however they may aggravate and perpetuate the fever, cannot be regarded as the cause of it.

The following facts are equally unfavorable to the hypothesis under consideration: the irritation produced by introducing a catheter will sometimes excite a chill, followed by fever, which may be repeated for several days: I have seen a severe paroxysm of fever developed by keeping a tent in an irritable ulcer on the side for an hour, which could not have been distinguished from a regular intermittent. The shock of a cold bath has been followed by a chill and fever, which recurred at the same hour the next day. Bad cases of stricture and retention of urine are pretty uniformly attended by the phenomena of intermittents, so that we have a class of what are called urinary fevers. Richter cites a case in which the irritation of worms brought on the disease. The suppression of the catamenia and of other habitual discharges has been known to excite it. Shapter mentions the case of a girl nine years of age, in which a true tertain was clearly referrible to fright. In all these cases the fever is, indisputably,

quite independent of gastric or intestinal irritation, and the facts show that an intermittent may arise and persist without such a cause.

We are assured, that "every system and every organ in the body may be, and frequently is, diseased during the course of fever;" and it is even probable that in a great majority of cases, "death is the result of one or many local inflammations."* But there is no constancy, no uniformity either in the seat or extent of the local disease. In one, we find the intestinal canal healthy; in another, the same parts present extensive disorganizations; and yet the symptoms in both, during life, were the same. Or we find, in other cases, the lungs inflamed, arachnitis, or rupture of the spleen; and in others, find all these organs in a healthy state. But if, as held by the advocates of the gastric theory, fever were a mere exponent of the inflammatory condition of the stomach and intestinal canal, we should as uniformly find such local lesions after the death of febrile patients, as we find disorganization of the lungs in death from pulmonitis; which, we have seen, is far from being the fact. Nor is this all, for we may have several patients presenting different symptoms, and yet on examination, *post mortem*, find the same morbid changes in all. In one, the phenomena of typhus may be present; in another, this condition may be slightly marked; in a third, it may be absent; and yet, in every one, we shall trace the same local lesion. Do we find, here, any of that constancy which subsists between cause and effect? We have similar symptoms excited by diverse lesions; and various phenomena excited by similar organic changes. To say that in such cases the fever is symptomatic of the local lesion, would be absurd. "A child," says Stokes, "is exposed to the contagion of small pox; for sometime nothing particular is observed; he then gets ill and feverish, and this is followed by an eruption of variolous pustules. Here we have a local disease consequent upon a circumstance affecting the whole system, and

*Stokes' Lectures, p. 409.

in this, as in local ulcerations attendant upon typhus, the local lesion is secondary. We might as well argue that the pustules were the cause of the symptoms in one case, as to say that the ulceration of the intestines was the cause of the other."*

Finally; the well known effect of bark in intermittent fever seems to me fatal to the doctrine of the physiological school. If we possess in any remedy a specific for any disorder, it is this article in recent cases of ague and fever. And yet bark is a tonic, a stimulant, and in genuine gastritis would be as mischievous, as in intermittent fever it is known to be salutary. How is it to be explained, that recent and acute gastritis is subdued by a remedy proved to be pernicious in other phlegmasiæ? I confess that the analogies cited by Broussais and his followers do not strike me as true. Chronic opthalmia, diarrhœa, and blennorrhagia, caused by stimulants, bear little resemblance to the inflammation that occurs during the progress of fever in the mucous membrane of the stomach.

The true account of the phenomena appears then, to be, that the repetition and excessive amount of the local congestions occurring in the cold stage of fevers, give rise to a hyperæmic condition of the affected organs. This condition, frequently excited, leads, at last, to local inflammations. New local inflammations are set up in various organs, and these, which, in the beginning, were only the effect of the disease, become, by reacting on the system, the cause of its continuance.† And hence, it appears, that in almost all cases of fever, there is a combination of the essential and the sympathetic fevers—the essential, the result of the first cause—the impress of malaria upon the nervous system—and the sympathetic, the result of the local lesions which arise during its course. So that, in the treatment of this disease, we are to bear in mind, not only the phenomena which seem to grow out of a general disturbance of the nervous system, but those

*Stokes. Op. cit. p. 414.
†Ib.

local inflammations also, which, springing up in its progress, serve to perpetuate the fever. We thus obviate the danger of death from the violence of the local affections, as also, the disturbance resulting from sympathetic irritation; whilst we reduce the disease to a state of the greatest simplicity, in whice quinine or bark may be given to arrest it. Upon the fact, that, these local lesions being removed, the accompanying fever often speedily subsides, Broussais chiefly founded his doctrine. But it has been shown that this was a hasty generalization. The true explanation of the fact is, that by subduing the local inflammation, we remove a focus of irritation, which opposed the salutary operations of nature.* After a few paroxysms of fever, we have ample reasons to suspect such local complications, and it is then found too late to rely upon quinine alone even in intermittents. Whether the inflammation be in the viscera of the abdomen, the thorax, or the cranium—and we have seen that all are occasionally involved—it constitutes a part of the morbid chain, and calls for a corresponding complexity of treatment. The antiphlogistic alone is not sufficient, as in pleuritis; nor that alone which acts upon the system.

The poison producing fever seems to exert its first influence upon the nervous system. The nerves of the cerebro-spinal axis are first disturbed. Hence the langour, head-ache, dulness, loss of apetite, disturbed sleep, and general *malaise*, the precursors of an attack of fever. The nervous system is marked by a peculiar law—that of periodicity, or intermission.† It is active, and reposes by turns. Repose is essential to its health. Intermission being an attribute of the tissue which sustains the first morbid impression, the same character is stamped upon the disease. All essential fevers exhibit this tendency, and in one type, the intermission is complete. All diseases located in the nervous system are intermittent, notwithstanding that the cause may be permanent.

*Stokes, Op. cit. p. 416.

†Dr. John Bell's Lectures, p. 550.

A spicula of bone, for example, irritating the brain will excite epilepsy recurring at distant intervals, though the irritation be always present. And, in like manner, coma, catalepsy and hysteria recur periodically, while the cause of irritation may be some permanent organic lesion. In fever, the system of nerves controlling animal life being depressed, all parts of the system—the skin, the viscera, and all the organs of circulation—are disturbed with it. For it is not mere depression of action; it is action also perverted. Congestions of the viscera, abdominal, thoracic, and cerebral, occur, which changes of temperature, irregularities of all sorts, fatigue, etc., especially favor; and these congestions being repeated, to be followed, still, by violent reaction, lesions at length are established in some system of organs, and become independent foci of irritation, reacting upon the cerebro-spinal axis, and increasing and perpetuating the morbid commotion.—That the intestinal canal should become most frequently the seat of these local inflammations would be inferred *a priori*, if post mortem examinations had not established the fact, from the circumstance of the extreme excitability of this tissue, and that it is peculiarly under the influence of aerial vicissitudes, of mental emotions, of fatigue, and of food and drink. All these, in fact, become the exciting causes of fever, when the nervous system is laboring under the effects of malaria. They often hasten the attack of which the premonitory symptoms had been for some days in existence; and by irritating the digestive apparatus they favour congestions and inflammation in that system.

Thus, to recapitulate, we have two classes of phenomena conjoined in fever: the first, irritation of the nervous system induced by the impress of malaria; the second, congestion or inflammation of some part, most commonly the mucous lining of the stomach and intestines, or of some of the associated organs, but often, also, of the lungs, and of the brain and its membranes. In the chill, the nervous system is depressed, and with it the action of the suffering organs falls below the healthy standard. Reaction follows the chill, and

the diseased organs also reacting, irritate the nervous system still further, and excite the heart to more violent action.

TREATMENT.

In the access of fever it is impossible to say what type it will assume. Remittent fever may be converted into an intermittent, by good management, in favorable cases, and intermittents often degenerate into the remittent form, or even assume the character of the formidable congestive type. In the same family, we meet with all the grades, from the mild intermittent to the congestive.

Dr. Cartwright assured the writer of this paper, that, in the yellow fever which prevailed in Mobile, New Orleans, and Natchez, in 1839, if, in the forming stage of the disease, viz; within an hour or two after the access of the chill, *ten grains of sulphate of quinine* were administered in a single dose, it often had the effect of arresting the fever or converting it into a mild and tractable form.* The same is true of the common intermittent; but, as in yellow fever, the remedy must be administered before the case is complicated by local inflammations. It was only while the fever was forming that the quinine possessed the power of subduing it; and it is only after the first few paroxysms, that this article can be relied on, singly, in chills and fever. After a few of

*Dr. Johnson in his work on Tropical Climates reports a similar practice as having been pursued by La Fucute, with singular success, in a malignant fever of Andalusia. "His plan," he remarks, "was to force the patient, if possible, to swallow six or eight ounces of bark within the first forty-eight hours of the disease. At the village of Los Barios, a few miles distant from St. Roque, ninety patients took the bark within the first eight hours of the fever, of whom *none* died, excepting one man carried off by a gouty affection. Of eight patients to whom it was administered between the eighth and tenth hour, all recovered. Of five who began between the twelfth and twenty-fourth hour, three recovered and two died. Of twenty who did not take it till the second day, thirteen recovered and seven died. Of seventeen who waited till the third or fourth day, eight recovered and nine died. And lastly, out of eighty persons who made no use of the bark, but took other remedies, only twenty-two recovered and fifty-eight died."

these commotions, it has been seen, the viscera become involved in disease demanding other treatment. In confirmed cases, purgatives must be superadded to the bark or quinine; and, not unfrequently, venesection, local and general, becomes necessary to subdue the local inflammations. Of the propriety of the last named remedy, the physician will judge from the violence of the paroxysm, the amount of local pain complained of, and the evidences, on examination, of inflammation in any organ. Dr. Stokes urges, with great emphasis, the importance of such an examination of all the regions of the body. "Here, gentlemen," he observes, "let me entreat of you to lay this down for yourselves as a rule never to be departed from, that before you prescribe the slightest medicine you first make an accurate and perfect survey of the state of the viscera. The whole nicety of treatment," he continues, "turns on this. If the case be one of the essential kind, we know the remedy which will answer, if not in all, at least in the majority of cases. If it be symptomatic, your treatment must be directed to the removal of the local lesions."* Quinine, aided, if complications exist, by moderate bleedings, and an occasional cathartic, of which calomel is the best, will not often fail to check intermittent fever. But the disease is known to be peculiarly apt to return again, on any slight exposure or indiscretion of the patient, and, after repeated recurrences, to induce an anœmic condition of the system. It becomes almost a law of the economy, and although often checked by quinine, as frequently appearing again under the most trifling irregularities. Such cases are familiar to all practitioners in miasmatic districts of country. Continuing, at intervals, through the winter, they break out in the spring, and persist during the summer. In such cases, bark and quinine cannot be depended upon; and, as in all similar states of the sanguineous system, in which the blood appears to be degenerated from a healthy condition and to be deficient in red globules, the preparations of iron exert the happiest influence.

*Op. cit.

Trousseau developes this principle fully in his recent treatise on Materia Medica. Dr. Stokes, also, gives his testimony to the value of iron, in such conditions of the system. I have relieved many of these obstinate cases of intermittent by the carbonate of iron, combined with a vegetable bitter. The ferro-cyanate of iron, however, is the form which seems to be best adapted to these cases. Stokes esteems the introduction of Prussian blue as a great improvement in medicine. He gives it in doses of from a "scruple to half a dram, three times a day."

The only other remedy of which I shall speak in simple intermittent is arsenic, which, according to M'Cullock, Sir Gilbert Blane, and others, may be used in some cases where bark has failed. This, Sir Gilbert found, was the fact in the fever which afflicted the British troops during the Walcheren expedition. In the fevers of young subjects who can with difficulty be brought under the influence of quinine or bark, I have often used Fowler's solution with satisfactory results. But where quinine can be given, and is borne by the patient, it is superior to all other remedies in recent cases; and has this advantage over arsenic, that it is uniformly harmless. Cases are on record, in which patients, who had used arsenic, fell into bad health, became weak, emaciated, and presented a remarkable derangement of the digestive organs, after recovery from the fever. Stokes relates instances of irremediable mischief from the long-continued use of this remedy. Such have never occurred in my practice; but the experience of so able a practitioner should induce caution in others. The dose of quinine commonly prescribed may be increased with advantage. Dr. Stokes prefers ten grains at a dose, once a day, to the same quantity in smaller doses during the day. I remember an interesting case, which goes to the same point. I had a patient, a young man from Alabama, who, having had a severe attack of pleuritis in the winter, fell into chills and fever in the spring. He tried the quinine in doses of one and two grains, and with them succeeded in checking the disease; but it still returned. In one of the paroxysms, per-

haps the second of a third relapse, I gave him sixteen grains at a single dose, in the height of the chill. Warmth was soon restored; sweating came on without any well-marked febrile paroxysm; and the chills left him to return no more. I have alluded to a condition of the system, induced by repeated attacks of intermittent fever, in which the preparations of iron exert an excellent influence, but I should leave the subject very incomplete without a reference to those visceral obstructions that are so likely to arise in the progress of this disease, and which, in fact, constitute one of its chief sources of danger. Dropsy is a well known consequence of such obstructions, and it has lately become a matter of remark, that tubercular consumption is frequently developed in persons whose health has suffered from long continued intermittents. The danger of so formidable a disease should cause us to redouble our diligence to subdue the fever while yet in its recent and tractable stage. In chronic cases the patient should, if possible, seek a change of air, avoiding localities where malaria abounds; and, for the rest, should adopt all those measures which are calculated to restore the deranged viscera to healthy action, and impart tone and vigor to the system. For fulfilling the latter indication some practitioners prescribe sulphate of copper, in preference to the salts of iron, combining it either with quinine or some astringent bitter. In such cases, almost every thing depends upon the care and discretion of the patient, and without his faithful co-operation relapses will continue to take place, and, at length, some of the dreaded sequelæ will make their appearance, in spite of all the resources of the physician.

Intermittent fever, now and then, assumes a form in southern climates, in which other modifications of treatment become necessary. I allude to what is called in this country, congestive fever, but which seems to have been long ago described by writers under the name of "malignant intermittent." Alibert gives an accurate description of congestive fever under the title of "algid" intermittent. From the descriptions given by Senac, Lancisci, Lind, Pringle and Cleg-

horn as well as by Bailly more recently, of these intermittents, it is clear to my mind, that they are identical with the formidable fever of our region. A more graphic account of our congestive fevers could not be found than that contributed by surgeon Shields in Johnson's work on Tropical Climates. "The patient," he says, "on the first attack frequently falls down and is insensible during the paroxysm, his body covered with cold clammy sweats, except at the pit of the stomach, which always feels hot to the palm of the hand; the pulse is small and quick. The length of the paroxysm varies from six to eighteen hours, and was generally succeeded by cold rigors, very often low delirium, preparatory to the next stage or paroxysm of the fever. The intellectual functions now become impaired, the patient not being at all sensible of his situation or of any particular ailment. If the patient be asked how he is, he commonly answers 'very well,' and seems surprised at the question. This is a very dangerous symptom, few recovering in whom it appeared. A great proportion changed in a few days to a bright yellow, some to a leaden color; other cases terminated fatally, in a very rapid manner, too, without the slightest alteration in that respect. Generally, however, the change of color indicated great danger. In some a purging of vitiated bile occurred; in a great many a torpor prevailed throughout the intestinal canal; rarely did any natural fæces appear spontaneously."

Lind describes the following case as a malignant intermittent, which answers fully to the symptoms of congestive fever:

"A young gentleman was seized with a fit of an ague, and in half an hour became delirious, then comatose, and at length speechless. Finding him in this state, I ordered a blister to be applied to his back, and a cordial julep with salt of hartshorn to be poured by degrees into his mouth. In two hours afterwards, upon recovering his senses so as to swallow with ease, I ordered him two ounces of tinture sacra, and then as soon as the fever and sweat had abated, without waiting for the complete effect of the purge, half a dram of bark every four hours. He began the use of the bark three hours after

he had taken the tinct. sacra; but before he had taken five drachms of it, he was seized with a second fit, and in like manner became delirious, comatose, and speechless. Sinapisms were applied to his feet, and other irritating applications used, until the fever was terminated by a plentiful sweat.—Thus, having twice narrowly escaped dying in the fit, a dram of the bark was ordered to be taken punctually every hour. He soon took two ounces of it, which had so happy an effect, that the fever left him entirely, and he was quickly restored to perfect health."*

I will add one case more of algid fever, as given by Dr. Bailly. The subject of it was a man æt. 60 years, of thin habit of body, but healthy up to the time of the attack, 18th August.

"He had a paroxysm of the common kind, which went off in a sweat. On the 19th he was brought to the hospital, and had a return of the fit, in which he complained much of inward heat. Expression anxious; the features were in a manner flattened on the bones of the face; the complexion was natural; look heavy. Evening: decline of the fit, skin moistened with a viscous and cold sweat; pulse small and frequent; agitation general; pain at the epigastrium; tongue red, but moist—no thirst. (Half an ounce of bark.) Throughout the night the skin was moist. Patient vomited the bark.

"On the 20th of August, in the morning, there was a remission of fever, the pain had disappeared, and the countenance was tranquil. About noon, a fresh paroxysm came on, and although a great heat succeeded the chill, the extremities remained cold, and the skin was covered with livid spots. On the 21st, general calm, but the extremities still cold; pulse small and frequent. Towards noon, there was a return of fever, preceded by chill; exacerbation of the preceding symptoms. The patient does not feel the coldness; he is in a measure benumbed and torpid. (Bark: an ounce to be taken through the night.)

22d. Skin less cold; pulse small and frequent; a viscous sweat over the whole body; look heavy. (Two ounces of bark.) At 10 o'clock, return of the paroxysm; pulse not to be felt at the arm; beats 140 at the crural artery. An icy coldness of the extremities; abdomen flattened, even con-

*Essay on diseases incidental to Europeans, in Hot Climates, &c.

cave, its parieties applied as it were to the spine; pain of the stomach, agitation, anguish: the patient who has never lost his understanding, is in a state of torpor, which barely allows of his answering any question. The complexion is natural. (Twelve leeches applied to the epigastrium; blisters to the arms; bark, three ounces in powder to be taken during the night. He has vomited the bark.)

"23d, A well marked remission. Towards nine o'clock, return of the cold, which is like that of marble; pulse imperceptible, artery beats 144 at the thigh. Pain of the stomach more intense; anxiety, great torment, eyes sunken. The cold, which hitherto had been confined to the extremities, extended to the shoulder and the pelvis. The head was cool, the thorax and abdomen not of their natural temperature; thighs icy like the legs. Evening; same state; he did not feel the cold of his legs, but was aware when touched by another that the skin of the latter was warmer than his. Pain of the stomach incessant. Lies on the back. Death at 3, A. M."

I will now briefly compare the history of congestive fever with the description of these cases. Dr. Russel thus writes of this fever:*

"There is nothing in the first chill or fever calculated to alarm; but the second or third may indicate the greatest danger. The chill is not generally very distressing, but the excitement upon reaction is excessive—the pulse is full, frequent, and resisting; the skin hot; pain in the head intense; the eyes often red; thirst for cold drinks urgent; violent throbbing of the carotids—in fine every symptom of a most malignant fever is present. Upon the decline of fever, a profuse, cold, clamy sweat breaks out, but affords no relief. The pulse rapidly sinks, becoming sometimes imperceptible. The whole surface is cold and shrunken, but especially the face, giving to the countenance a ghastly expression. Great distress, referred to the chest and epigastrium; oftentimes a burning heat, and superadded is a restlessness, which the patient cannot control. Respiration hurried and difficult. In some cases constant vomiting, or repeated ineffectual efforts; in others, hypercatharsis, which usually ensues after the exhibition of a hydragogue. The strength of the patient is of-

*Transylvania Journal, vol. 6, p. 90.

ten astonishing—he is able to rise at pleasure from his bed—to change his position from place to place; in fine, to control every muscle of his frame."

The following is a case of congestive fever, reported by W. J. Johnson in the first volume of the Southern Med. and Surg. Journal: About sunrise on a morning in August, 1835, a negro man, aged 30, was attacked with pain in the head and shivering. He was ordered to bed, and wraped up warm, and a bowl of hot sudorific tea was given him. Patient complained no more, and lay in bed perfectly calm and quiet; breathing laborious; eyelids open, and eyes fixed; made no reply when spoken to; extremities cold and clammy; pulse slow and struggling. Death in a few hours.

The same writer details the particulars of another case:

"A boy at school, æt. 14, in the midst of apparent good health, was seized with congestive fever in such a degree that he was thought to be dying. He was bled, and vomited—half-digested chesnuts were thrown up. Cups were used, with sinapisms to his extremities, and a blister to the neck. He continued in a state of collapse. By the use of calomel, enemas, cupping, and stimulants, a large quantity of dark, vitiated, offensive bile was brought away from the bowels. After this, he became sensible and expressed himself better. Reaction was considerable, and the antiphlogistic plan was pursued for several days. His friends entertained the strongest hopes of his recovery, when on a sudden he complained of acute pain in the head—went delirious, and seemed for some time to be laboring under an attack of phrenitis. These symptoms were attended with convulsions and other nervous symptoms. Blisters were re-applied to the head and behind the ear; but notwithstanding this, he went in a fatal collapse, from which he never recovered. The pupils of his eyes were widely dilated, insensible to light; picking at the bed clothes; low, muttering delirium; incoherent speech; *subsultus tendinum;* involuntary evacuations, were the symptoms which closed the scene."

I will not multiply instances; but I cannot forbear expressing my belief, that any physician who will carefully compare

what he has seen of congestive fever with the histories given by European, and especially Italian writers, of the malignant intermittents of miasmatic regions, will come to the conclusion, that the two diseases are identical. In the congestive fever of the South, therefore, I conclude that we have the algid fever of Alibut—the pernicious or malignant intermittent of Senac, Lancisi, Lind, and other old writers on the diseases of the tropical climates. It is proper, however, to remark, that remittent as well as intermittent fever is subject to degenerate into this malignant type, and in treating of the cure I have not pretended to distinguish between them, regarding them all as modifications of bilious fever. Congestive fever, I have said, calls for a modification of the treatment usually successful in the simple remittent or intermittent. That modification has been introduced by the practitioners of the Valley of the Mississippi, and if judiciously adopted and pursued, promises to rob this fever of a large share of its terrors. It consists in the *cold water dash*, as in cases of asphyxia, and in liberal doses of sulphate of quinine. The latter remedy given in the forming stage of the disease will often convert it into a simple intermittent. It is to be given in ten grain doses, and repeated according to circumstances. Of the application of cold water in asphyxia of such fevers, with signal success, we are in possession of much testimony from practitioners in various parts of the South-west. Among the first to adopt the practice, I believe, was Drs. Fearne and Erskine, of Huntsville, Alabama; but without being acquainted with the results of their experiments, Dr. Addams, of Cynthiana, Kentucky, resorted to it, with the happiest results, in the asphyxiated stage of cholera. Dr. Russel, in the article referred to, has recorded some highly interesting and instructive cases of recovery from congestive fever under the use of the cold dash. I cannot better illustrate the practice than by transcribing some of these cases.

His second case was that of a man whom he found in the greatest state of restlessness, complaining of a sense of excessive internal heat.

"His pulse was barely perceptible, skin cool and wet with sweat, respiration impeded and frequent; there had been no evacuation from his bowels, notwithstanding he had taken, according to the estimation of his friends, sixty grains of calomel. This being the third case I had seen, and my confidence in the efficacy of cold water being unbounded, I without delay made the application. As usual, the relief was instantaneous, and so agreeable was it to the patient, that for the remainder of the time he was confined, he kept by his bed side a vessel of water which he used at his pleasure according to the suggestion of his feelings. Reaction was thus completely established, and with mild cathartics and quinine he was entirely restored to health."

Dr. Erskine details the particulars of a case, the subject of which was found in the third paroxysm of regular intermittent fever of the tertian form, which had been neglected. The cold, clammy surface, feeble pulse, great restlessness and precordial distress were present, as in all such cases. Cold well-water, rendered colder by the addition of table-salt, was dashed on the naked surface. He feel asleep soon after being put to bed, and had ten or twelve hours rest. Reaction was complete next morning, pulse slower and fuller; no return of the clammy sweat. "He recovered in a few days upon the use of bark, with occasional doses of mild aperient medicine."

A second case reported by Dr. Erskine is one of algid intermittent. The subject, a female, had the symptoms of simple intermittent; but in the second paroxysm, symptoms of a malignant character occurred. A cold, clammy sweat appeared on the extremities, accompanied with great restlessness and anxiety, for which Dr. E. at first tried sponging with cold water, as the friends objected to the cold dash; but the patient growing much worse in twelve hours, he had recourse to the affusion. When he resorted to it, the extremities were cold and shrivelled, pulse feeble, features contracted; great restlessness was present, with considerable alienation of mind. The water was poured on her body from a pitcher, and being wiped dry she was put to bed, where she slept for an hour or two. The cold sweat was then found to be returning, and

the cold water was again applied. The renewal was found necessary three or four times. A few doses of calomel and quinine completed the cure.

The last case reported by Dr. Russell is in the language of Dr. Fearn, and is highly instructive:

"Sylvia, a favorite mulatto servant, belonging to Dr. David Moore, was attacked with intermittent fever on the 11th of September. I saw her on the morning of the 16th, and found her in the following condition: Her whole body shrunk, cold, and bathed in a clammy perspiration—skin shrivelled, as if she had been for some time immersed in water. The extremities were of a marble coldness—some restlessness, and occasional sighing, but without any distinct pain; mental faculties unimpaired; pulse scarcely perceptible at the wrist, and beating 130 in a minute; tongue moist; cold drinks alone were craved; every thing warm or stimulant was loathed. I was informed that the first paroxysm had gone off in the usual manner, with perspiration, and was followed by a complete intermission. On the 13th, a second paroxysm came on; the extremities continued cold for some time after the body was hot, and the fever did not give place to an entire intermission, as it had done two days previously. On the 15th some fever continuing, an emetic of ant. tart. was administered. It operated well, but not inordinately, both as an emetic and cathartic. The fever subsided rapidly, perspiration came on, and continued through the night, increasing in quantity, and assuming a more cold and clammy character, until she was reduced to the situation in which I found her next morning."

Cold affusions were ordered, to be repeated every two hours, but as the prescription was left to be executed by the overseer, the physician found, in the evening, that the bath had been given but twice, and that the situation of his patient was in no way improved. On his visit in the evening the affusion was again made, and by next morning the danger had passen. She had slept well—warmth was restored. Quinine and bark, with mild laxatives, were the only remedies subsequently used. The paroxysm did not return, and the convalescence was rapid.*

*Trans. Jour. Med. loc. cit.

To the efficacy of the cold affusion in the collapsed state of congestive fever, I will only add the testimony of Dr. Keller, of Alabama. He says:

"I have seen it tried often, and in two-thirds of the cases it proved entirely successful. One case I recollect—that of a favorite servant; the family had despaired of her life, and had removed her to an adjoining room to die. She was entirely pulseless, and had been so for hours; the cold dash was applied twice in an hour, and in three hours the excitement was so great as to require the free use of the lancet—in a few days she was as well as ever." He adds: "If cold water fails to excite in this stage, you may consider the case of your patient hopeless."

Dr. K. has found it far more effectual in rousing the system from the state of asphyxia, or collapse, than the most powerful stimulants.

It is curious to remark, how exactly this is in analogy with the action of the same remedy in asphyxia from other causes. In poisoning with the mephitic gases, and in cases of drowning, or of syncope from the effects of lightning, cold water in the form of affusions is well known to be the most efficient remedy. The same is also true of poisoning by opium; and late experiments go to prove that in the asphyxia induced by an over dose of hydrocyanic acid it is the most certain restorative. So that, on this point, we seem to have arrived at a general truth—to have established a great and valuable principle; and if future researches should confirm it, cold water will become the remedy in all aphyxiated conditions of the system, whether induced by lightning, the noxious gases, an over dose of arsenic or prussic acid, or occurring in fever or cholera. The experience of Dr. Addams in the collapse of cholera has already been alluded to, and his paper on the subject contains the history of a number of cases of the highest interest, to which, as being analagous to cases of congestive fever in the same stage, I will refer more in detail.

His first case is that of a man aged 30, of robust constitution. He had been affected with choleric symptoms for four

or five days. Collapse supervened on the fifth. His skin was icy cold and bathed in perspiration—pulse nearly imperceptible, breathing oppressed, tongue cold, spasms, eyes sunk, "countenance collapsed." Vomiting, and watery discharges from his bowels copious and frequent. Recovered under the cold water affusions, with a few doses of calomel and quinine.

Case 2d.—A little boy, aged 11, had all the above described symptoms. Other remedies failing to excite, the cold affusion was applied, once and again; reaction occurred, and he got well.

In the third case the termination was fatal, the patient, a woman, aborting, and sinking twenty days after her attack. The cold water recovered her from the state of collapse, and her death was clearly the consequence of the abortion. The child had been dead for several weeks, from appearances indicated.

The next case was one of deep collapse. It terminated favorably. The cold water was repeatedly applied, always restoring warmth and exciting the pulse.

Dr. A. refers to many cases treated successfully by other physicians in the same way. After free depletion by venesection, purgatives and emetics, he deems the remedy inapplicable.*

It would be difficult, I think, to find in the annals of Medicine, more unequivocal testimony to the efficacy of any remedial agent, than has here been brought forward in favor of affusions of cold water in the asphyxia of congestive fever. I shall add nothing to these details which already, perhaps, have been sufficiently extended.

Before taking leave of the treatment of congestive fever, I will allude briefly to the views of a late writer on the subject. Dr. Hardin, of Kentucky, reported some cases in the first volume of the Louisville Journal of Medicine and Surgery, marked by certain peculiarities, which terminated fatally. In a late number of the Western Journal of Medicine and Surgery he has extended his remarks, and has added two fatal

*Trans. Jour. Med. vol. 8, p. 61.

cases which exhibited the same peculiarity. This peculiarity consisted in copious evacuations from the bowels of "mucus, as green as wheat, inodorous, exceedingly acid, and incapable of communicating any tinge to water." He treated these cases in the usual way, with calomel, v. s. blisters, ipecacuanha, pulv. antimon. &c. Gangrene of the mouth and gums came on, with fatal symptoms of collapse. He regards the *green, mucus discharges* as pathognomonic, and insists, that whenever they appear, calomel is poisonous, inducing with fatal certainty gangrene of the mouth. In such cases he applies sinapisms to the whole extent of the spine, upon the principle of arousing it to action, and thereby invoking secretion from the abdominal viscera. And this practice appears to have succeeded admirably in his hands. He relates the histories of several remarkable cases, and states that he has had much experience in the application of the remedy. The following is the sixth case in Dr. Hardin's paper:

"Sept. 1st. 1838, I was requested to visit a youth aged 12 or 13 years, of good constitution, who had been sick some twelve days. Symptoms—expressed himself as being free from pain; tongue dark red and very dry; skin rather hot; pulse too frequent and sufficiently full; restlessness very considerable. He had been in a similar condition from the commencement of the attack; had taken 25 grs. calomel every night, with rhubarb on the following morning when the calomel failed to operate. Discharges represented as having been consistent and bilious from the beginning. The same treatment was continued for one night longer.

"Sept. 3d. Gangrene of the gums apparent; surface cool; pulse small, weak and frequent; alvine evacuations represented as being still consistent and bilious; but upon inspection were found to be a dark green mucus. Spinal irritation with mustard seed was used every twelve hours, and the bowels moved with rhubarb. Under this treatment the patient recovered, but was considerably endangered for some days by gangrene and hemorrhage from the gums."*

In all cases of this fever (congestive) of ordinary violence,

*See No. xiv. of this Journal.

Dr. H. found the respiration laborious, with feeble radial pulsation, cool surface and extremities, and an intolerable sense of weight at the epigastrium. He had in vain attempted to rouse the circulation by synapisms and warmth to the extremities; but, applied to the spine, they have produced marked advantage. The extremities grew warm, the præcordial distress is removed; in other words, the balance of the circulation is restored. Besides the irritation over the spinal cord, Dr. H. gave rhubarb as a purgative; but no calomel. He relies upon the sinapisms, aided by ten grains of Dover's powder and five grains of camphor, to prevent the paroxysm.

I have gone somewhat fully into an explication of Dr. Hardin's practice, because it is novel, and involves a principle which, if confirmed, will prove a highly important one. That there are cases in which calomel is unequivocally pernicious, may well make those pause who use this remedy, indiscriminately and perseveringly, from the beginning to the close of bilious fever in all its grades. If Dr. H. has hit upon the distinctive feature of such cases, he has discovered a most valuable fact in practical medicine. I can only add that he is a gentleman of excellent moral character, whose accuracy and faithfulness in the statement of facts may be fully relied on. And in the present case he reports, that his experience has extended through two years, and that he has tested the practice in a multitude of cases.

In support of the liberal use of quinine which I have proposed, much testimony may be adduced. I have referred to the remark of Dr. Cartwright concerning its utility in the access of yellow fever. Dr. Perrine, twelve years ago administered the medicine in such doses as to amount to a dram in a single intermittent.* Dr. Monette, both in the American Journal of the Medical Sciences, and in the Western Journal of Medicine and Surgery has given his favorable opinion of the practice. Dr. Drake says he has been in the habit of giving it in doses of ten or fifteen grains.† Dr. May reports some

*Western Journal of Medicine, vol. xi.
†Ib.

interesting cases in which it acted benignly in such doses. In his own person he used fifteen grains of quinine, during the fever, which left him while taking it. "I passed the day," he says, "without the recurrence of fever; was affected with some degree of stupor, ringing in my ears and deafness; but with no other uncomfortable sensation. A dose of calomel taken about 8 o'clock, A. M., brought off evacuations of the consistence of black clotted blood."* He recovered, using quinine in smaller doses, with calomel and rhubarb. Dr. May found that given in the febrile paroxysm, it uniformly reduced the pulse. Such is the experience of Dr. Thomas Fearn, also, who gives a striking case in the 9th volume of the Transylvania Journal of Medicine. The patient labored under bilious fever, having had repeated attacks of intermittent fever in former years. It was in the advanced stage of the disease, and Dr. F. believed his patient would die in the next paroxysm. He gave quinine in doses of thirty-two grains at the occurrence of the apyrexia, but while the pulse was still a hundred in the minute. In an hour there was a diminution in the frequency of the pulse—"the invariable effect," he remarks, "of a large dose of quinine." Another dose of the same size administered in an hour was attended with a still further reduction of the pulse, and a "ringing in the ears." A third dose was given, making ninety-six grains in three doses. The patient recovered, Dr. Fearn's ordinary dose of quinine is twenty grains.†

From all this—and it were easy to add much to the same effect, if time and space permitted—it is clear, that quinine is to be regarded rather as a sedative than a stimulant, conforming, thus, in character to opium, which stimulates in small doses, but in large doses calms and subdues nervous and arterial excitement. Quinine, consequently, may be administered as well in the remissions, as in the intermissions of fever. This is the conclusion, at least, to which the writer of this essay has come, and the practice he would earnestly recom-

*Transylvania Journal, vol. x

†Transylvania Journal, vol. x.

mend to the consideration of the profession. This preparation of bark appears to be a *febrifuge*, in the true acceptation of the term—preventing the chill, and moderating and abridging the paroxysm of fever. I would give it at the access of fever, while the disease was yet in its forming stage, and I would watch the earliest remission, and administer a dose of ten or fifteen grains, with a view of converting the subsidence into a complete intermission. And from all the experience I have had, as well as from what others have written concerning this practice, I am convinced that it is the best mode of treating fever. In saying this, however, I am far from meaning to convey the impression, that, in the treatment of fever, I should rely exclusively upon quinine, or upon it in conjunction with all the remedies heretofore enumerated. I mean simply to say, that I am constrained to regard it as a most important improvement upon the system too generally confided in—that of purgatives and the lancet.

Of the lancet I have already spoken. It should be used wherever we have reason to suspect local lesions, and it should be employed, also, in cases of excessive arterial action to obviate the danger of such lesions. But I should deem it a useless waste of time to dwell upon the value of a remedy, the indications for which are so familiar to the profession. That it has been abused, and that it may be carried to excess, no one can question, any more than that it is imperiously called for in many cases of fever. Marshall Hall has well described a morbid state to which excessive venesection gives rise. We see it in the nervous irritation, the throbbing temples, headache, &c. with which females suffer who have been the subjects of profuse uterine hæmorrhage. But in describing the circumstances which should regulate the employment of the lancet, I should be but repeating what is fully and clearly laid down in every standard work which treats of fever. Nor shall I dwell at greater length upon the value of local bloodletting, which, by the universal consent of the profession, is placed at the head of the means for subduing local inflammations. Leeches are more eligible under certain circumstances, but cupping is to be preferred in a majority of

cases, as being more under our command, and enabling us to adapt the bleeding to the violence of the affection. I esteem the general use of this measure by the profession one of the greatest improvements in the practice of this country. As a mean of controlling local disease, it exceeds in power all other remedies, at the same time that its action is immediate and clear, and its application attended with but little pain. It is never to be omitted where the disease shows a disposition to fix upon particular organs.

It is difficult to speak of purgatives in fever without entering into discussions and details which would extend this essay beyond all reasonable limits. I shall, therefore, confine my remarks to a few points upon which my experience enables me to speak with confidence. I will not institute a comparison between the value of cholagogue and hydragogue cathartics, nor dwell upon the fact, so universally admitted, that the procurement of dark, consistent evacuations is a most favorable circumstance in cases of bilious fever. Neither shall I stop to inquire in what way the purgatives, usually styled bilious, exercise their curative influence—whether by promoting the secretion of the liver, or by removing the local lesions of the alimentary canal which are known to maintain febrile excitement. The statement of a few facts, however, bearing on this point, may be proper. First, then, it would seem to be unphilosophical to address our remedies exclusively to an organ which post mortem examinations have proved to be frequently free from disease; and equally so to infer, that, because purgatives act beneficially, they do so by disgorging the liver of its vitiated bile. That calomel, which exerts a decided influence on the liver, is a most valuable remedy in fever, I freely admit; nay, I am ready to maintain, that it is indispensable in the management of the fevers of the Misssisippi Valley. But it does not necessarily follow, that it relieves the patient by its action on the liver, which may be in a healthy condition.

The second fact upon which I would lay a good deal of stress is, that calomel, which may stand for the class of purgatives, has been proved by many experiments to be quite

the opposite of a stimulating, or irritating medicine, when applied to inflamed surfaces. In the person of the patient of Dr. Beaumont, this fact was clearly established. When the stomach of Saint Martin was seen to be red and dry, and he had no appetite, a few grains of calomel introduced through the orifice in the abdomen had the effect, in a short time, of removing the hyperœmia, and allaying all the symptoms of gastric disturbance. The same remedy we apply to external surfaces in an inflamed condition. We give it in dysentery with advantage, where the large intestines are known to labor under inflammation. It is a remedy of most unequivocal value in croup, the essential feature of which is high inflammation. We give it in cases of excessive gastric irritability, where no other medicine can be retained, and we find it to check and relieve the vomiting and nausea. But why multiply examples? All the facts connected with the operation of calomel prove it to be a sedative, allaying gastric irritation, favoring sleep in the sick and watchful, curing a bad cough, and relieving the heat and pain of gonorrhea. That such is its character no physician can doubt who has watched its action upon young children, and seen it induce sleep like an opiate. And as a sedative no doubt it is, in part, that it brings relief to the febrile patient. Acting directly upon the inflamed surfaces, it removes one of the conditions by which the febrile action is perpetuated. But the liver and other abdominal viscera being often though not uniformly in a state of congestion, it relieves this state of things by promoting their secretions. Calomel, therefore, is well retained as one of the most efficient remedies in fever, although we reject the theory of hepatic congestion upon which it has been used to so great excess.

In point of activity there is no great difference between a large and a small dose of calomel. The article is nearly insoluble, one part requiring two thousand parts of water to dissolve it, and, consequently, when administered in large quantities, much of it passes unchanged, but partially altered in chemical composition, as I have observed. I have known a patient to take sixty grains of calomel, and have but a sin-

gle moderate passage from it; and a week afterwards have known the same individual to be purged six times by ten grains of this medicine. Of course, his system was in a different condition at the two periods; although the difference was not manifested by the symptoms, for he was laboring under diarrhœa each time. But all physicians must have remarked, that the effects of this medicine are by no means proportioned to the dose of it, and that one or two grains of it will often excite the bowels quite as freely as a scruple. Some writers maintain, that it is more likely to irritate the stomach and bowels in small than in large doses.

If these views be correct, very large doses of calomel, to say the least, are unnecessary. It is also unphilosophical, upon these principles, to increase the dose with the evidences of intestinal torpor, and to depend upon curing the disease by purging from the liver. If a dose of ten or twenty grains fail to operate, it is a proof that the remedy is not in harmony with the prevailing state of the system. The excitement may require to be moderated; and, then, v. s., cold water, tart. emet. or ipecac., in small doses, will cause the purgative to act well. Often its action will be promoted by combining it with quinine. In favor of this practice I might cite much authority. It may be found in all the American journals of medicine. By the use of the latter article in large doses, the system may be brought into a condition in which a few grains of calomel will produce satisfactory purging. And finally, according to the experience of Dr. Hardin, in one condition of the spinal cord, the stimulation of sinapisms, applied along its course, will promote the desired operation. Far, therefore, from relying upon calomel alone, I cannot too strongly insist upon aiding its salutary action by the lancet, when indicated —by cupping, and leeches—by cold water, copiously used, externally and internally—by quinine, given so as to anticipate the paroxysm, and to shorten it—or by the application of excitants, in the apyrexia, or remission, to the spinal column, as the state of the patient may point to the propriety of one or the other of these measures. I am sure we have relied quite too exclusively upon this potent remedy in the treatment of our fevers.

A few years ago it was the practice to hasten the operation of calomel, when slow, by the administration of the neutral salts or castor oil. Dr. Rush, it is well known, used calomel and jalap combined, in doses of ten grains each. But since the appearance of epidemic cholera in this country, and probably even a year or two earlier, a disposition to serous evacuations has been remarked, in our fevers, which such purgatives promote. Hence, for a number of years, they have been pretty universally discarded. But this feature in the fevers of the South is gradually disappearing, and the saline purgatives may be restored to favor. As less likely to excite watery purging, aloes, rhubarb, extract of the juglans cinerea, and scammony, are both adapted to cases in which there is a proneness to such evacuations. These are to be administered in from eight to twelve hours after the calomel, should this fail to act in that time, and must be repeated, if the first dose is not sufficient. But here, again, I must bear my testimony against that practice, which consists in repeating dose after dose of such articles, without any attempt at bringing the system into a state favorable to purgation. Incredible doses of jalap, rhubarb, scammony and aloes are sometimes given in fever without purging the patient. In such cases the liberal use of cold water will frequently relax the bowels, especially if it be aided by the abstraction of a little blood, or by minute doses of tartar emetic. And where the stomach is so irritable as to reject all medicines, nothing will be found so soon to quiet it as the cold bath, and the liberal use of ice. I prefer giving a dose of calomel at bed-time, and securing its action by suitable adjuvants next day; and then waiting till evening before repeating it. Some hours are necessary to enable it to exert its whole beneficial influence upon the system; and once in the four-and-twenty hours is as often as it has been my practice to exhibit it. At the same time, I will not undertake to say, that there may not be cases in which it is proper to administer it more frequently. But I greatly fear, that by those who hold, that the only way of curing fever is to purge from the liver, it has often been pushed too far; an error which has contributed to excite great prejudices against

it in the public mind, and to give a class of empirics a temporary advantage over the regular practitioner. The danger of ptyalism—very great in children—is not to be forgotten where it is necessary to give calomel day after day for a long time. Nor should we lose sight of the fact, that there are morbid states which particularly favor this mischievous action of the medicine, and that many constitutions are peculiarly susceptible to it.

If, therefore, there be danger in large doses—danger of salivation, and of fatal gangrene of the mouth—and if small doses are as active, but not so likely to salivate, as large ones, why should we persist in the employment of the latter? If we can avoid the danger, and at the same time accomplish our object, by combining the calomel, or by varying our remedies to suit the varying indications of the disease, nothing is plainer, than that the moderate use of this formidable remedy is alike a matter of duty and good policy.

Of the subordinate remedies called for in the cure of fevers, I shall not speak at great length. I do not estimate the value of emetics highly, nor consider them as admissible in cases of gastric irritability, which symptom I have seen them seriously aggravate. Upon the whole, unless there are irritating ingesta to be removed, I am not sure that we should lose much by rejecting them in the treatment of our fevers. Yet, while I express this as the result of my own experience, I must admit that high authority can be found for the use of them. I well remember the success of the late Dr. Wilson Yandell, one of the earliest practitioners of Tennessee, whose uniform practice it was to administer an emetic, in the first stage of the attack. He held, as Rush also maintained, that by this course he frequently cut short the fever, or, at least, rendered it more mild and manageable. Graves says, tartar emetic frequently succeeds in cutting short, or removing febrile symptoms, and it is evidently one of his favorite remedies in those cases of typhus, where there is undoubted evidence of determination of blood to the head, producing headache, loss of sleep, and delirium. But this admirable author truly remarks, what must have struck all physicians of observation, that

every epidemic is peculiar and distinct in its nature, and that each, consequently, requires a peculiar mode of treatment. The fevers which have prevailed in the Valley of the Mississippi for the last fourteen or fifteen years have been marked by a tendency to congestion, in some seasons, and, in others, by an irritability of the stomach, forbidding the use of emetics. This, I am persuaded, is the general experience of the physicians of this region of country. I have long been convinced, that emetics exerted a most baneful influence in the case of the excellent physician above alluded to, whose premature death was occasioned by an attack of autumnal fever, in which he took tartar emetic more than once. After the operation of the last dose, his disease assumed the formidable congestive type. But I entertain a very different opinion of the virtues of cold water, as a drink and external refrigerant, in the hot stage of the disease. Indeed, I could hardly speak too warmly in praise of it, whether the comfort it gives to the patient be regarded, or the effect it exercises in moderating the violence of febrile action. Yet I do not think it admissible to dwell upon a remedy the virtues of which all practitioners are beginning to admit, and which must become the most popular of all our remedies for fever. Cold water is hardly to be ranked among the subordinate means for controlling febrile action. It deserves, rather, to be classed among the most efficient of the measures. Fortunately, it is one most consonant to the feelings of the patient. The history of practical medicine affords not a few instances in which patients have recovered, by violating the precepts of misguided practitioners, and indulging freely in the use of cold water. Ice is even more grateful than cold water from the spring, and in cases of great gastric irritability is one of our best remedies. Great is the relief I have often witnessed, in such cases, from allowing the patient to swallow little pieces of it every few minutes. In cholera infantum and dysentery, as well as fever, I have repeatedly seen it allay nausea and vomiting in the promptest manner.

While on the subject of cold water I will mention, that I have experienced admirable effects from the cold dash in ca-

ses of fever marked by obstinate determinations to the brain. The patient is to be placed in the hot bath, and while in this situation cold water is to be poured on his head from the mouth of a pitcher, or the spout of a coffee-pot.*

Opium may be given in the cold stage of intermittent fever without aggravating the fever, and with the good effect of abridging the cold paroxysm.

Blisters are indicated in fevers under a variety of circumstances, but it is particularly as stimulants, in the latter stage, or as revulsives, where local determinations occur, that they are to be used; and in such conditions their effect is often most salutary. Who has not seen them relieve the pain in the head, chest, or abdomen, sometimes persisting after free depletion, like a charm? No doubt they are often applied too early, in which case they increase the febrile excitement. They are not to be resorted to until after the violence of the disease has been subdued by evacuants. If, afterwards, local affections are manifest they are to be employed, unless cupping should be more clearly indicated.

The pulvis ipecac. compos., as a diaphoretic, may be employed in the advanced stage of fever; and the pulvis antimonialis is admissible at an earlier period. Tartar emetic in minute doses, with a view to diaphoresis, is a favorite prescription with many able practitioners.

But having pointed out the cardinal remedies in the cure of fever, I shall not attempt to enumerate the details of treatment; but shall only add, in conclusion, that much of the success of our remedies will depend upon the time of administering them, the fidelity with which their operation is watched and promoted, and the care with which the comfort of the patient is preserved. Stillness, repose, a darkened but well ventilated chamber, all things, in a word, that mitigate his anguish, contribute to his restoration, and in the worst cases may be pronounced necessary to recovery.

*See Southwood Smith on Fever, for full details of the efficacy of this practice.

Selections from American and Foreign Journals.

Report of a Case of Axillary Aneurism, in the General Hospital, U. S. A., at Picolata, E. F.—By Surgeon Charles M'Dougall, U. S. Army. John Kane, ætat. 24, a private of company K., third artillery, while escorting an officer some weeks since to St. Augustine, was shot by the Indians, and wounded in two places; one ball striking midway between the eighth dorsal vertebra and the angle of its rib, appeared in front, under the integuments, without having penetrated the abdominal cavity: the other, entering about two inches above the lower angle of the scapula, came out anteriorly in a line with, and severing the axillary artery, equidistant from the middle of the clavicle and the axilla. He ran his horse for half a mile, after being shot, when he fell, exhausted from hæmorrhage, and was brought to the general hospital in a state of insensibility. The circulation being extremely weak, skin cold and pallid, a little wine was administered, which, with warm applications to the extremities, soon brought on sufficient reaction to enable the system to recover its lost energies. On making a careful examination of his wounds, a ball was extracted from under the skin of the left side; the integuments around the anterior upper wound, were found enormously distended, having a dark, livid appearance. Life, in this case, has been preserved by the ordinary laws of the natural economy, syncope and pressure from the effused blood. Simple dressings to the wounds, perfect rest, evaporating lotions, moderate pressure, and the usual antiphlogistic means, constituted the treatment.

At the expiration of a fortnight, the effused blood and swelling had disappeared. The external wounds were healthy, and, judging from the small discharge, the internal track of the wounds had united by the first intention. The patient was considered out of all danger, and continued to improve

until the end of the fourth week, when a small pulsatory tumor suddenly appeared over the axillary artery, and directly under the external wound. A false aneurism was rapidly forming. The tumor continued to enlarge and pulsate with great violence, although pressure had been made above and upon it, and, after the tenth day, extended above to the clavicle, pushing that bone out of its natural position, downwards, into the axilla, and anteriorly, putting the pectoral muscles and integuments so greatly on the stretch, as to threaten momentarily to give way; pulse at the wrist almost imperceptible; has frequent and violent attacks of neuralgic pains, along the arm, forearm, and fingers; arm insensible to touch, and motionless. Sound, communicated to the ear by the stethescope, like the rushing of fluid at each descent of the piston of a forcing pump. There could be no doubt or hesitancy as to its important character. The locality of the wound—hæmorrhage—distension—absorption of the effused fluid—sudden appearance of a small pulsating tumor—its increase—pulsating equally over the whole circumference—sound—with the entire absence of all the symptoms of suppuration, made it doubly certain that the artery had given way at the wounded point. Apprehending an immediate rupture of the tumor, after consultation with that able officer of the Medical Staff, Assistant Surgeon Hoxton, (who, at the time, was among the number of my patients,) and agreeing that the taking up of the subclavian artery above the clavicle was the only alternative, determined upon the operation on the following day.

Saturday, Dec. 12th.—All the necessary arrangements being made, sixty drops of tinc. opii were given, and as soon as its effects were most apparent, he was laid upon a narrow operating table. After depressing the shoulders as much as possible, and drawing the skin about one-third of an inch over the clavicle, a transverse incision was made directly upon that bone to near its acromial end; this was done, in order to make the first cut with precision. The integuments resuming their natural position, the platysma myoides and superficial fascia were divided by repeated and cautious strokes of the knife to the extent of the first incision. The bleeding from two superficial veins, made it necessary to tie them. The external jugular was carefully avoided. About half an inch of the sterno-cleido-mastoideus was cut, the better to expose the nerves and vessels beneath. After separating the lymphatic glands and fatty tissue from their connexions, the cervical nerves were brought plainly into view, and on the inner side and beneath, to a great depth, was recognized the subclavian artery, which, for the want of a properly curved aneurismal needle, was with some difficulty secured by a ligature.

All pulsation at the wrist and the tumor now ceased. The pain, which continued throughout most of the operation, subsided. The edges of the incision being brought together by three sutures and two adhesive strips, and a light bandage drawn over the whole, the patient was conveyed to bed. ℞ pulv. doveri. grains x. Attendants to watch by the bed side.

13th—Passed a quiet night; no return of the neuralgic pains; no pulse at the wrist; arm still insensible; temperature below natural; some excitement; tongue much furred; bowels have not been opened; V. S. 1 ℔.; ℞. hyd. submur. grs. xv.; ol. Ricini ℥iss, six hours after. Evening—medicine has operated; skin moist; tongue cleaner; no change in the condition of the arm; tumor diminished some; ℞. pulv. doveri, grs. x. at 9 P. M.

14th—Slept well; expresses himself as feeling comfortable; tongue yet furred; ℞. acet. morph., tart., ant. aa grs. ¼, 9. A. M. Electric shocks to the arm. Evening—no apparent change; electric shocks cause an agreeable tingling sensation; looks well; repeat morning's prescription at 9, P. M.

15th—Continues to improve in general appearance; tumor evidently much smaller; feels soft and flabby; ℞. massa. ex. hyd., bi carb. sodæ aa grs. x, at 9, P. M.

16th—Bowels moved; wound examined and dressed. Discharge free and healthy; but a small part of the wound united; a slight blush around the clavicular end of the wound; adhesive strips with light cerated dressings over. Evening—no variation.

17th—Wound dressed; healthy granulations appear; free from excitement; arm has its natural warmth, and fast recovering its sensibility. Tumor daily and rapidly diminishing.

18th—Patient comfortable and cheerful; electric shocks continued; wounds dressed morning and night. 12, P. M.—suddenly called up to visit Kane; found him deluged in blood; breathing laborious; the hæmorrhage had taken place while he was asleep, and was arrested by the syncope; bandage being glued by the drying of the blood, was not disturbed; compress placed over it, with directions to attendants where to apply pressure. The artery had undoubtedly ulcerated at the point where the ligature had been applied.

19th—No bleeding since 12 o'clock last night. Noon—another alarming hæmorrhage, which was arrested by pressure; attendants to keep up constant pressure with the thumb by reliefs; pulse barely perceptible, no bleeding since noon; surface cold. He continued to linger until 12, P. M., when he breathed his last.

Examination ten hours, post mortem. An incision eight or nine inches in length was made, extending from the centre of the clavicle, over the top of the tumor, to some distance down the inner part of the arm; the integuments were freely dissected and turned back, the pect. major cut and drawn out of the way. This muscle was attenuated, perhaps by distension and absorption; the blood had been forced through its fibres like through a seive, and in some places incorporated with its substance. The same was the case with the pect. minor. On raising both these muscles, an immense mass of coagulated blood, which appeared partially organized, was disclosed beneath, and contained in an imperfectly formed sac. The sac being washed out and cleaned, brought the parts more fairly into view. The artery was found completely divided, and the ends retracted to the distance of half an inch. Not the slightest adhesion had taken place, the mouths being as patulous as if just cut; veins and nerves perfect, and in position. To expose the parts above the clavicle, an incision was made along the course of the mastoid muscle; commencing about half way between the mastoid process and the sternal extremity of the clavicle, and met by a transverse cut along the whole length of that bone. The fascia, platys. myoides, stern. mastoideus, were divided, and the subjacent parts freely exposed. The artery had ulcerated where the ligature had been applied, presenting a scollopped, uneven edge at both orifices. No trace of adhesive inflammation in it could be detected. The inner coat of the artery had a pale, bleached appearance. A small coagulum of blood rolled out of the orifice nearest the heart, when the finger was pressed upon it. Granulations were found at the bottom of the wound, and had completely filled it, excepting where the ligature was. The surrounding tissues were consolidated by adhesive inflammation, and rendered the dissection tedious and difficult.

The remarkable fact in this case of the perfect want of adhesive inflammation at both points where the artery had been divided, can only be accounted for, on the supposition of some mysterious constitutional influence. Six weeks had elapsed from the reception of the wound. Kane was a large, muscular, healthy man, and in good condition for a surgical operation. The artery was fairly tied with a moderate sized ligature, and with but little disturbance of its natural connexions. Every symptom, subsequent to the operation, appeared favorable to its ultimate success. It is true, that the system had betrayed a certain degree of nervous irritation from the first, distinct from the violent neuralgic pains, and in a greater de-

gree after the operation, but it did not impede the necessary adhesive inflammation in the surrounding parts. The fact of the artery being tied near where the subscapular is given off, is not sufficient to account for the total absence of an effort of nature to unite its sides; inasmuch as it has been satisfactorily proven, that an artery, although tied immediately at the point where a branch is given off, will unite at the compressed part, so as to be secure against all danger. We are therefore constrained to admit that some secret action beyond the reach of medicine or art, exercised a positive influence over the animal economy, inimical to the progress of a healthy cure in all the structures alike.

January, 1841.

Compression of the Aorta as a means of arresting Uterine Hemorrhage.—Dr. Piedagnel communicated to the *Societe Medicale d'Emulation*, on the 4th of April, 1840, two cases in which uterine hemorrhage, following labour, was immediately arrested by compression of the aorta. These cases were referred to MM. Velpeau and Brierre de Boisment, who made a report in relation to them on the 6th of May. This last paper contains so admirable a summary of the history of this therapeutic measure, that we are sure we shall gratify and instruct our readers by transferring the principal part of it to our pages.

"The idea of compressing the aorta to arrest uterine hemorrhage, must naturally have suggested itself as soon as the laws of anastomsis became well known, and accoucheurs saw the splendid conquests of modern surgical art in the vast field of aneurisms. But before investigating the origin of hemorrhages and discussing the value of compression, it is not without utility, in a few words, to trace the history of this new mode of cure. When MM. Trehan and Baudeloque (nephew) published their memoirs,* compression had not been practised

*Trehan, p. 1. Nouveau traitement des hemorrhagies uterines qui suivent l'accouchement par la compression de l'aorte.—Paris, 1829; in 8vo., p. 29. Baudeloque neveu, Traitement des pertes de sang qui peuvent suivre l'accouchement, par la compression do l'aorte exercee sur le ventre, la pression convenable du ventre et l'usage du seigle ergote et des fortifians.—*Journ. des Conn. Med. Ch.*, 1834, t. i., p. 201.

at all in France, but the moment that attention had been called to this subject, the ancients were searched, and foreign journals were hunted through, and soon, according to invariable custom, it was found that many authors before MM. Trehan and Baudeloque had spoken of this hemostatic remedy. This time we cannot go back to Hippocrates, and the honors of this priority fall to Daniel Louis Budiger, an accoucheur of Tubingen. In order to ascertain the real truth of these assertions, we have consulted the works referred to; and here is the result of these researches: Budiger employed compression of the aorta for the first time in a female who had just laid in and was at the point of death from loss of blood. The flooding lessened immediately; the uterus contracted; the mother was revived and saved. Budiger adds that he has had recourse to this remedy in a score of cases.

"Ploucquet published the new operation, the description of which had appeared in the Journal of Loder in 1797. He says positively that compression of the aorta had been made *per manum in utero adhuc expanso.**

"Compression of the aorta to arrest uterine hemorrhages had been proposed, or at least employed nearly at the same epoch, by the celebrated Danish accoucheur, Math. Saxtorph. He compressed this vessel by acting on the womb through the walls of the abdomen.†

"In 1812 Boer expressed himself thus: 'Inter alia conamina nuper etiam hoc legimus; inductâ manu posterior uteri paries satis opprimitur ut, descendentis retro aortæ, velut suffocatione sanguis irruere in interum per subditos ramos præpediatur. Ecce nova alia procul ægris excogitata instructio! Quam circa candidus afferans quæ duobus periculis sum expertus. Ubi nempè uterus modice crassus et contractus est, compressio arteriæ, etiam si fieri possit, inefficax, ac ne quidem necessaria est. At flaccido et amplo viscere, ut manus robur in arteriam penetret, mors alioqui fores pulsat, ex uteri paresi scilicet, cujus hemorrhagia solum consequentia est, ut, nisi apoplexiam loci sustuleris, ægra occidat, sanguis fluat, necne. Id saltem compertum in præsens ego habeo."‡ This

*Loder's Journal, fur die Chirurgic Geburtshulfe und Gerichtliche Arzneikunde, b. 1, p. 493, 1797; vide t. ii of Ploucquet, Repert. Medicinæ Practicæ Chirurgiæ atque rei Obstetricæ, art. *Hemorrhagia, Compressio aortæ descendentis*, p. 261. Tubingæ, 1808.

†Math. Saxtorph's Gesammelete Schriften Geburtshulflichen, praktischen und physiologischen inhalts. Complete works of Math. Saxtorph, published by P. Scheil, Copenhagen, p. 229.—1803.

‡Boer, Nat. Med. Obstet. lib. sept., p. 525.—Vienna, 1812.

passage from Boer's work conclusively establishes that compression of the aorta was well known in Germany; that accoucheur, however, entertains an unfavorable opinion of this procedure, although it is probable that he objects to the manner of doing it. At the present day compression in the uterus is generally abandoned.

"Dr. Ulsamer, of Wurtzbourg, repeatedly compressed the aorta with success. The cases cited by him in his work are clear and precise.* He used two fingers to arrest the course of the blood. Nearly at the same period Eichelberg, Siebold, MM. Baudeloque, nephew, and Trehan reported cases of cure of uterine flooding by compression of the aorta. The two latter physicians, who were not aware of the labours of the Germans, believed themselves to be the inventors of this operation, and laid claim to the priority in it. Siebold's researches were made in 1828. In the case cited by him the aorta was compressed with the fist.

"We shall not dwell longer on this order of facts; they put it beyond a doubt that the treatment of uterine floodings by compression of the aorta is by no means new, and if honorable physicians have insisted on their having discovered this expedient, it is because, at the epoch of their proclaiming it, the works of the Germans were very little known, owing to the difficulties presented by their language.

"Compression of the aorta is then unquestionably registered in the annals of our science; but has this remedy all the efficacy attributed to it, or are we to believe, with some that it is useless and even hurtful? Two opinions so opposite can only arise from the mode of explaining the orgin of uterine hemorrhage.

"If the blood be furnished by the arteries—and the anatomcal disposition of the vessels, which acquire a prodigious development, favors this opinion—the theory would teach us to compress the main trunk; but if the blood comes from the venous system, as M. Jacquemier assures us it does, compression of the aorta would have none of the utility accorded to it. The last named author, founding his opinion on an examination of the vascular circle of the uterus, and of the manner in which the venous circulation is effected there, ascribes flooding to a want of resistance of the utero-placental veins. Whatever tends to favor the stasis of blood in the uterine veins a little too long, establishes a predisposition to repeated

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See Friederich et Hesselbach: Beitraege zur Natur und Heilkunde, t i, p. 261.—1825.

losses. The quantity of blood furnished by the utero-placental arteries must be infinitely small.

"Compression of the aorta, continues Dr. Jacquemier, cannot attain the end proposed. By that measure we force the blood to pass more rapidly and abundantly through the division of the aorta above the point compressed; the upper vena cava bringing to the right auricle more blood than usual, the lower vena cava remains in a state of distension. The ovarian and uterine veins destitute of valves, partaking of the overloaded state of the inferior vena cava, it follows that the blood retrogrades into the uterine cavity, as long as the contraction of the uterus does not serve as a valve or check."*

"It cannot be denied that M. Jacquimier's explanation is ingenious; but we must admit that the mechanism of uterine floodings is similar to that of other hemorrhages; if it be so, the capillaries ought to have a large share in the production of these hemorrhages, which take place then by a true exhalation from the internal surface of the uterus. This explanation, favorable to compression of the aorta, is moreover justified by the facts already cited, and by the observations we are about to report.

"But if compression of the aorta be, as M. Velpeau thinks, a resource at once important and easy, it must not be lost sight of, that in thus suspending the afflux of arterial blood, we may equally check the return of venous blood, and that we ought, as much as possible, to avoid, at the same time, compressing the vena cava.

"M. Piedagnel's observations are two in number; the first was the case of a young lady, whose confinement, which had been natural, was followed by a flooding which cold water injections could not arrest. This physician then had recourse to compression of the aorta, seconded by the employment of refrigerants. The patient presented most of the symptoms observed in persons perishing of hemorrhage. As soon as he had put this expedient in operation, the flow ceased, but the convalescence was long.

"Observation second relates to the same lady. Her flooding was immediately combated with compression of the aorta; the blood stopped running, but the womb remained inert; a stream of cold water, directed into the interior of the organ,

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*Recherches d'anatomie, de physiologie et de pathologie sur l'uturus humain pendant la gestation, et sur l'apoplexie utero-placentaire, pour servir a l'histoire des hemorrhagies uterines, du part premature et abortif; par M. Jacquemier.—*Arch. Gen. de. Med.*, 1839.

brought on contraction. Napkins placed above and maintained by a body bandage completed the cure. The duration of the flow, in this instance, was from 20 to 25 minutes.

"There is no accoucheur who, in the course of his practice, has not seen women recently delivered losing blood enough to bring on swooning, dimness of sight, and partial fainting, and these symptoms spontaneously disappearing at the moment we are about having recourse to energetic treatment. At other times cold applications and astringent drinks have sufficed to suspend the discharge of blood. In many cases we have availed ourselves most successfully of stimulation of the uterus, whose contractions we have excited by passing the ends of the fingers over the internal surface of the organ, while we compressed the womb with the left hand on the abdomen. Finally, the administration of ergot has very often triumphed over uterine hemorrhages. Perhaps the employment of some one of these means would have sufficed in the second case; but M. Piedagnel, who still had in his mind the grave symptoms of the former hemorrhage, acted prudently in resorting to the remedy which had succeded so well with him the first time.

"The interest attached to this subject engages us to report two other cases, which we owe to the kindness of our honorable confrère, M. Pinel Grandchamp. A lady, after a laborious delivery, in 1834, was taken with a considerable flooding. M. Pinel, time after time, introduced his hand into the vagina and uterus, to extract the clots and excite the internal face and neck of this viscus, expressed into the womb the juice of several lemons, and made free aspersions of cold water, all in vain, the swoons rapidly succeeded one another. In this state of things our colleague thought of compression of the aorta, and practised it for an hour. When he intercepted fully the passage of the blood in the artery, he observed the following phenomena:

"The countenance regained a portion of its natural color; the eyes became more animated, the lips more rosy; the pulse rose again; it was frequent, and had some fulness; the strength of the heart was increased; the patient came out of the state of syncope or prostration, into which a slight compression had almost immediately thrown her. She then said that she felt much better. The blood no longer flowed externally, although the uterus and vagina were freed from clots.

"When he suspended the compression, the blood no longer issued as abundantly, or with the same force, but if it recommenced flowing, all the phenomena of syncope reappeared,

and the pulse almost ceased beating. Only an hour and a half after the operation, the uterus began to recover itself and contract so as no longer to create any fear of inertia. Twelve days afterwards the patient was perfectly restored.* No ergot whatever was administered; it would probably, adds M. Pinel, have aided me in more quickly overcoming the inertia of the uterus.

"In the course of that year M. Pinel Grandchamp was called, in consultation, by Dr. Marye, to a woman who had been losing blood several hours. By touching he recognized the placenta inverted on the neck. Having introduced three fingers behind the symphysis, partly to detach the placenta, he ruptured the bag of waters, and slowly penetrated into the interior of the womb. The head was in the first position at the superior straight; he applied the forceps in this straight, which, on account of the space in which we manœuvre, is easier than generally supposed. The child was withdrawn alive, but half asphyxiated. While our cares were directed to its recovery, the sound of a liquid running on the floor apprized us that the mother was bleeding freely.

"Notwithstanding her delivery the blood continued to flow, and the patient's faintings continually increased; M. Pinel, after having in vain injected cold water, and squeezed several lemons in the cavity of the womb, resorted to compression of the aorta, which momentarily arrested the flooding; but as soon as they ceased applying the fingers the blood reappeared as abundantly as before. At length, an hour having elapsed, it seemed to run somewhat less. A pealed lemon was introduced anew, and the hemorrhage gradually stopped.

"These cases, those reported by the authors, sufficiently attest the utility of compression of the aorta. But this point established, it remains for us to consider the place to be chosen for the operation, the manner in which it is to be performed, and its duration.

"All the modifications proposed can be reduced to three procedures. Some, as Budiger, Eichelberg, carry the hand into the uterus; others, as Saxtorph, reach the aorta by acting on the womb through the walls of the abdomen; finally, the third party, whose method is generally followed now, compress the artery above the womb.

"The introduction of the hand into the uterus, and resting on its posterior region, has been rightly blamed. This plan indeed is bad, and of difficult application: it exposes the tissue of the organ to a kind of attrition; it is moreover imprac-

*Censeur Medical, Avril, 1834, p. 301.

ticable when the womb begins to react. However, it has many times succeeded. Eichelberg cites the case of a woman in whom compression thus effected lasted an hour; the moment it was stopped blood flowed.

"The physical condition of the female just delivered is favorable for compressing the aorta independently of the thinness of the walls, which, by the spreading out of the recti abdominis muscles, are reduced to that of the skin and two aponeurotic and serous membranes, which allow the aorta and vena cava to be almost directly touched; the intestines have, so to speak, chosen an abode in the lateral portions of the abdomen.

"The fundus of the womb also can easily be pushed into the region of the loins, or into the pelvis, whilst in the normal state, besides the thickness, somewhat considerable, of the walls, due to the accumulation of fatty cellular tissue, we are obliged to press on the intestines in order to reach the aorta, which makes the operation more difficult and painful.

"Compression through the abdominal parietes can be exerted with the thumb, with two or with four fingers, as preferred by MM. Baudeloque, Tréhan and Ulsamer. We have seen that Siebold had practised it with the closed hand applied a little to the left of the spine; this plan is more difficult in execution than the two preceding. M. Piedagnel employed the cubital margin of his hand. M. Pinel Grandchamp, advises us to press the artery moderately with the fingers; in bearing forcibly on the vessel the fingers grow numb and the operation cannot be continued long by the same person. This means, it appears to us, ought to be employed in preference to all others. To reach the aorta, the precaution must be taken to turn aside the intestines; the arterial pulsation indicates the presence of the vessel. It is then compressed longitudinally without involving the inferior vena cava in the manœuvre.

"The duration of the compression has been a matter of very diverse opinions. Some have limited it to five, six and seven minutes; others have prolonged it an hour or two. Eichelberg and M. Pinel Grandchamp, did not succeed in arresting the blood in less than an hour. M. Paul Dubois thinks we must continue the operation an hour or two, and then suspend it by degrees, assuring ourselves that the bleeding appears no more. The examples cited by us prove that simple compression suffices to check the hemorrhage, but we believe it better to associate with it the spurred rye, (ergot.)

"However it may be with the combination of these two

means, we are not the less persuaded that compression of the aorta has been and will be of real service; moreover, M. Piedagnel appears to us to have done well in adding his observations to those of Blount,* of MM. Brossart,† Latour,‡ Lowenhardt,§ and Martins.‖—*La Lancette Francaise, May* 12, 1840.

Clinical Lecture on Fissure of the Anus.—By M. Velpeau. The patient who now occupies bed No. — is affected with fissure of the anus, a disease which still requires for its elucidation careful research. Notwithstanding the labors of Boyer, Beclard, Dupuytren, and a few other surgeons, I believe that we have much to learn of the causes, symptoms, and treatment of this painful affection; I shall, therefore, embrace the present opportunity of directing your attention to this subject.

Fissure of the anus consists in the existence of a small narrow ulceration seated in the radiating folds at the margin of the anus, and usually attended with very excruciating pain, whenever the patient goes to stool. Before Boyer's time this disease was almost entirely unknown, and if we examine what has been said concerning it by other writers who preceded him, we shall be convinced that our knowledge of its causes, symptoms, &c., dates within the last twenty-five or thirty years.

Let us first turn our attention to the *causes* of fissure of the anus. This disease may be excited by constipation, piles, the evacuation of hard fæcal matter, in large masses, by mechanical injury, from the end of a lavement apparatus, for example, &c.; but in many cases it is developed without our being able to discover or trace any probable cause. It arises, in most instances, in a very gradual manner, and soon assumes the characters of other ulcerations about the part; hence we find great difficulty in assigning to it its true and efficient cause; nor do I think we could produce the disease by artificial means. It exists in individuals of both sexes, but attacks

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*Ingleby on Uterine Hemorrhagy, p. 249.
†Thesis, Strasbourg, Feb. 1830.
‡Revue Medicale, t. iii., p. 22, 1830.
§Revue Medicale, *id.*
‖*Ibid.*

females more frequently than males; it commonly appears between the ages of twenty-five and sixty, but has been observed at the ages of eighteen or twenty. I have seen it in a young man eighteen years of age, and in a girl of twenty-one; children, however, seem to be exempt from this affection. One of the most remarkable points connected with the history of fissure of the anus, is the great pain and suffering by which it is accompanied; effects which we are unable to reconcile with the slight degree of organic injury constituting the complaint. M. Blandin and M. Harvey de Chegoin think that fissures seated above or below the sphincter ani are of an insignificant nature, and heal of their own accord, or under the most simple treatment; while other fissures are attended by the symptoms described by Boyer. This seems to me to be a speculative distinction, for I have seen several cases of fissure of the anus in which violent pain was a prominent symptom, although the affection did not implicate the sphincter muscle of the anus.

One circumstance, gentlemen, connected with the history of this disease, merits particular attention. The sphincter ani muscle is in a state of permanent constriction. But is this a cause or an effect of the disease? Boyer asserted that this constriction formed a principal exciting cause, since division of the sphincter muscle immediately calms all suffering, without any application having been made to the fissure itself. On the other hand, MM. Roche, Sanson, and Blandin contend that the constriction of the sphincter is a result of the complaint, because the ulceration may frequently exist without our being able to discover it. We cannot, it is true, deny that fissure may sometimes exist without constriction, altho' it be accompanied by the signs of the latter affection, such as violent pain, burning heat, &c., on going to stool. I have witnessed several examples of this; but who can affirm there is no fissure, merely because the surgeon who examines may be unable to find one? The great authority of Boyer is the only cause of our attaching any weight to his assertions, for they have never been confirmed by the result of *post mortem* examinations. Perhaps, however, there may be some means of reconciling opinions on this interesting point in the history of fissure of the anus. Thus, we can understand how a small fissure, being irritated by the passage of stercoraceous matter, may excite spasmodic constriction in the muscular bands underneath it; and again, we can believe that strong spasmodic contraction of the anus, by inducing costiveness, may induce excoriation of the skin about the anus, and thus

become a cause of fissure. Under this point of view, constriction of the sphincter ani and fissure are two distinct affections which are independent, but have a strong tendency to merge one into the other.

The *symptoms* of the disease are the following; the patient first experiences some pain on going to stool, and for some time after an evacuation from the bowels. The pain gradually increases in intensity and period of duration, and when it has arrived at its maximum, the patient suffers the most excruciating torture. The sensation excited by the passage of fæces is compared by the patient to the pain occasioned by a red hot iron, or to the tearing asunder the margin of the anus, and brings on a feeling of faintness or threatening of convulsions. In the intervals between each stool, the patient merely feels some lancinating pain or scalding, with a sense of weight about the part, and colic. As the time for evacuating the bowels approaches, the pain is manifestly increased, is most violent during the moment of expelling the fæces, and then gradually declines for a few hours. It occupies a circumscribed space about the margin of the anus, and is often attended by pulsation of the vessels like that which accompanies phlegmonous inflammation. The bowels now become obstinately constipated, and evacuations take place every eight or ten days, unless purgatives or clysters be employed. The patient feels such a dread of going to stool, that he defers the moment as long as possible, although he knows that such conduct will aggravate his sufferings. One patient at the Hotel Dieu, was heard to exclaim that he would rather die than go to the water-closet, so great was the pain during evacuation of the bowels. Some persons who labour under this disease have recourse to curious methods of avoiding the inconveniences occasioned by the passage of fæcal matter; thus, Boyer mentions the case of a lady who kept a canula constantly fixed in the rectum, to prevent the suffering which she experienced at each evacuation. But fluid stools, or even the passage of air, will occasionally excite very severe pain. Some patients are able to walk about, sit down, or attend to their ordinary business during the intervals between the attacks, but others are compelled to keep their beds in spite of the increased heat and pain thus occasioned. The shooting pains extend towards the bladder or uterus, and in some cases to the hypogastric region. The digestion is impaired; the patient eats little, to avoid the necessity of going to stool; he becomes thin and of a yellow hue; the face is expressive of suffering, and on looking at it, one would say that the patient

labored under some severe organic disease; occasionally the slightest movement will excite the accesses of pain; coughing, spitting, blowing the nose, speaking or singing will aggravate it; any excess in eating or drinking will have a similar effect. The presence of the catamenia, also, increases the sufferings of women. The pain is at once excited by introducing any body into the rectum, as the pipe of a syringe, &c., and when we attempt to pass up the finger, we not only occasion severe agony, but feel that it is powerfully grasped by the constrictor muscle of the anus.

On separating the folds of the anus and drawing the rectum gently down, we perceive, at the bottom of some one fold, a small ulcerated fissure about one or two lines broad, by four, eight, ten, or twelve in length. The edges of the fissure are generally free from hardness; they are of a bright red color, and bear the strongest resemblance to the cracks which so often exist in the hands, feet, or corners of the mouth. A very small quantity of pus may be discharged from the fissure, and in some cases a little blood. It often happens that we find it extremely difficult to discover the fissure, hidden as it is in the folds of the anus, which is usually, in such cases, more or less of a funnel shape; we must carefully unfold the integuments, and desire the patient to make a few expulsive efforts. The fissure is then exposed; it may occupy any point of the margin of the anus, may scarcely reach the edge of the mucous membrane, or may be confined to the parts above the sphincter. In many cases the fissure seems to commence from or terminate in a pile; and usually it extends in a vertical direction upwards. We can often assure ourselves of the existence of this lesion by the mere touch; the instant the finger comes in contact with the fissure, the most violent pain is experienced by the patient, and we feel a hard, wrinkled cord, which indicates the precise situation of the crack. Such, gentlemen, are the ordinary symptoms of fissure of the anus; severe burning pain at the moment of going to stool; narrow, elongated and superficial ulceration at the edge of the anus; and violent contraction of the sphincter muscle.

Progress of the disease.—Fissure of the anus does not present all the symptoms now enumerated, from its commencement; it begins with very slight pain, or itching; tickling feel or creeping sensation, with heat after each stool. These symptoms may continue for six months, or even a year, before they become sufficiently severe to excite much attention. In other cases, the disease will acquire its greatest degree of intensity in a few weeks, or may be very severe from the

commencement. You are not, either, to imagine that the series of symptoms already described will present itself in every case; many patients feel no pain whatever: others (and the patient on whom I am about to operate is of this class) suffer severe and almost constant pain. Our patient has a long fissure, with grayish, irregular, and granulated base, resting on indurated cellular tissue. She suffers much from burning pain whenever she goes to stool; the anus contracts violently, and it is with the utmost difficulty that we can introduce a canula, or even the tip of the little finger. You should therefore remember that Boyer's description of fissure of the anus is merely a general one, and that several varieties may present themselves to us, in which the symptoms described by Boyer do not exist, and to which the treatment recommended by him would be inapplicable.

Treatment.—Some cases of painful fissure may get well of their own accord. I knew a medical student who labored under this disease for seven or eight years, and then recovered without operation or any treatment. A few days ago I saw a patient in town who equally got well without any treatment, after three or four years. However, patients are in general very anxious to adopt some means of relieving their sufferings, and removing the unpleasant disease under which they labor. This may be effected with or without operation. Several ointments have been employed for this purpose. Boyer obtained a cure in one case by throwing into the rectum two or three spoonfuls per day of an injection composed of hog's lard, walnut juice, sorrel juice, and almond oil, of each four ounces; but here the fissure was attended with slight contraction of the sphincter.

M. Descudé informs us that we can cure the disease with large doses of the oleum hyosciami, and topical applications of mercurial ointment. Some surgeons speak highly of *douches* of cold water, of decoctions of chœrophyllum or poppy heads, &c. In a few cases I have succeeded with white precipitate ointment. Dupuytren employed with excellent effect, the following ointment, introduced into the anus by means of a tent: extract of belladonna, two drachms; lard, two ounces; honey, two ounces. More recently some practitioners have spoken in very favorable terms of *monesia*, and one or two cases of cure by this remedy have been cited; but I fear that it will soon meet the fate of most of our new remedies, which flourish for a time and are heard of no more. When the above mentioned means have been tried (and we must often try them to satisfy our patients) without success, we must have

recourse to one of the following, viz., cauterization, dilatation, division of the sphincter muscle, or excision of the fissure. The disease is sometimes cured in the most satisfactory manner by running a stick of nitrate of silver over the whole surface of the fissure. Beclard pretends that he never failed in this way; but other surgeons have not met with the same success; I have tried it myself in many cases without obtaining any benefit, and think that the cases which presented themselves to Beclard, must have been slight, and unaccompanied with contraction of the sphincter muscle; besides, Beclard employed dilatation at the same time. Cauterization can only cure fissure of the anus by modifying the ulcerated surface, and transforming it into a simple wound, which heals like common solutions of continuity. In this way we explain the success obtained by Guy de Chauliac, and Dionis, who cauterized or scarified the ulcers, and by Guerin, &c., who applied the actual cautery, or irritated the surface of the sore with the nail, &c.

Dilatation, by the introduction of tents of lint gradually enlarged, into the rectum, has often been attended with the best effects in the hands of Beclard, Dubois, Marjolin, and others. I have employed this mode of treatment with success in some cases, but it is often tedious and painful. In order to shorten the period of pain and diminish its violence, we should employ the largest tents that we can introduce into the rectum. The pain is at first very severe, but as soon as we get to the fourth or fifth tent it is much mitigated; the tents may be covered with any of the ointments which I have already mentioned to you. However, I should remark that the composition of the ointment does not seem to have any effect whatever. I have tried them all, and afterwards common cerate, and found the latter to answer as well. Dilatation then is the chief element of cure in such cases, and I believe that considerable success would attend its use if we could induce our patients to resist the pain which it, in the first instance, always occasions.

Incision of the sphincter ani was proposed by Boyer, and recommended by him as the best, indeed the only mode of treating fissure of the anus; his practice has been followed by most of our surgeons up to the present day. Boyer regards this method as infallible, yet several practitioners mention cases in which it has failed. He was naturally led to advocate this mode of practice, because he believed that contraction of the sphincter ani was the chief cause of fissure.

The preparatory steps of this operation are exactly the

same as those for fistula in ano. The lower intestines are to be emptied by means of a lavement, or some mild purgative, in order to insure quietude for some time after the operation. The instruments employed are a straight, probe-pointed bistoury; a common bistoury; a large tent; a T bandage, and all the minor accessories. The patient is placed on the edge of a bed, with the head low, the under limb extended, the upper one flexed, and the buttocks kept widely apart by assistants. The surgeon now introduces the index finger of his left hand into the rectum, guides along it the flat side of his probe-pointed bistoury, and divides the sphincter. Should the fissure occupy the median line in front, he must not cut upwards, for fear of injuring the urethra or vagina. Boyer thought it sufficient to divide the sphincter at any point, without caring where the fissure may be; but I am of opinion that you will do well to pass the blade of the knife through the fissure at the same time that you divide the muscle. When this has been accomplished, you continue the incision upwards and downwards for an inch or two, so as to cut thro' the whole thickness of the sphincter. A single incision is usually sufficient; but if there be several fissures, or if excessive contraction of the sphincter be present, then we must make a second incision on the opposite side of the anus. When the edges of the fissure are rounded off, hard and thickened, we seize them with a forceps, and remove the hardened portions either with the knife or scissors.

The dressing is very simple. A tent of lint covered with cerate is placed between the lips of the wound, but its upper extremity must reach about an inch beyond the superior angle of the incision. The space between the buttocks is then filled with lint, and the whole supported with a T bandage. The tent must be supplied every day until cicatrization takes place. I have said nothing of the occurrence of hemorrhage, for it is almost impossible that any such accident should happen; but were it to arrive, you must have recourse to the usual means of arresting it, with which you are all familiar.

Such, gentlemen, are the methods of treatment generally employed for the cure of fissure of the anus; cauterization, dilatation, incision. The latter treatment is successful in a vast majority of cases; but as some modern practitioners have insisted on the point, that constriction of the anus is the effect, not the cause of fissure, their opinions have produced some new ideas relative to the treatment of this affection. Upon the principles of these gentlemen, I have practised excision of the fissure instead of dividing the sphincter muscle. This

operation had been highly spoken of by Mothe and Guérin; I had mentioned it myself in 1832, and some of my operations were published in 1836. The following is the method which I adopted. The patient is placed in the same position as for incision of the sphincter; the point of the border of the anus occupied by the fissure is then seized with a hook, and a couple of strokes of the bistoury on the right and left complete the excision of the fissured part. Sometimes I emyloyed the scissors to remove it, but always avoided cutting the muscular tissue underneath. The operation is soon over, and unattended with pain; I have performed it eight or ten times at least, and have almost always succeeded in curing the patient. In one or two failures I was unable to find out whether the want of success depended on my not having cut out all the diseased structure, or on some other cause. I believe that when the complaint is of long standing, we should divide the sphincter, and at the same time remove the ulceration; that is to say, combine incision and excision together. I shall do this in the case we are about to operate on. The disease here has existed for several years; the ulcer is large, with a grayish, lardaceous base; and it is very probable that simple incision of the muscle would fail to effect a cure. You may ask me, perhaps, why I employ excision, and do not remain content with division of the muscle, a mode of treatment which has been sanctioned by experience. My reasons are the following. Division of the sphincter is an easy and quick operation, and attended almost certainly with success; but it compels us to cut through the deeper-seated tissues beyond the muscle. The wound which results always suppurates for some time, and may occasion dangerous accidents. The inflammation and formation of matter may extend to the pelvis and compromise the patient's life. I have seen two cases in which the patients died after a division of the sphincter for fissure of the anus. The operation of excision is entirely free from this danger, because the cellular tissue beyond the sphincter is not touched. The resulting inflammation is very slight, and the wound requires to be dressed for three or four days only. Finally, it is an operation much more simple than division, and one which we should always prefer in recent cases; but when the disease is of long standing, and the contraction of the sphincter violent, we should combine the two operations, so as to ensure success in the most obstinate cases.—*Provincial Med. and Surg. Journal*, April 3, 1841.

Treatment of Rheumatism by Inoculation with Morphia. By Q. Gibbon, M. D.

Salem, N. J., May 19th, 1841.

To Professor Dunglison.

Dear Sir,—A wish to present to the profession what I deem a useful fact, has induced me, though at the risk of intruding upon the time of one with whom I have not had the pleasure of a personal acquaintance, to offer for your consideration the following remarks:—

Having seen in your work upon "New Remedies," published sometime since in the "Library," an article upon the beneficial effects derived from inoculation with morphia in the treatment of local diseases, I determined to make a trial of the plan in local rheumatism, an affection which I have frequently found great difficulty in managing. I was not long afterward called to treat an obstinate rheumatic affection of the knee-joint, which had resisted the usual general and local means. One quarter of a grain of the sulphate of morphia was inserted, by means of punctures, in the skin over the affected part, twice a day for two days, with the most marked and satisfactory results. The patient, who for two weeks previous had suffered extreme pain upon the slightest motion of the limb, was, at the expiration of this period, able to walk with slight inconvenience, and upon the third day, threw aside the crutch with which he had before hobbled across his room. Friction with stramonium ointment, two or three times repeated during the fourth day, removed all remaining disease in the affected part.

The next case was a rheumatism of the wrist, in which no previous treatment had been practised. In this case, which was recent, two applications of the morphia, upon two succeeding days, so effectually removed the pain and tenderness, as to allow of the free use of the hand on the third day.

The third trial was made upon an obstinate rheumatism of the knee-joint, remaining after the subsidence of general rheumatism. The patient, a boy of sixteen, after having been rendered motionless for several days by a severe attack of inflammatory rheumatism of the whole system, recovered under the free use of tart. antim. opium, and colchicum, with the exception of the knee in question, which remained exquisitely painful, and tender upon pressure in one spot of about an inch in diameter upon its inner side. The insertion of a quarter of a grain of morphia, produced in a few hours a decided impression upon the pain, and by the second day,

the symptoms were so far mitigated as to permit free motion in the part. This patient recovered rapidly without any farther medication.

A fourth case, which had resisted acupuncturation, assisted by the free use of the stramonium ointment, yielded upon the fourth day from the first application of the morphia, the patient expressing much satisfaction at the effects of the remedy.

Since treating the above cases, I have had an opportunity of testing the good effects of morphia in several other instances, and with results which induce me to entertain a very favorable opinion of its remedial powers. Judging from the limited experience which I have as yet had of its application, I should think it best adapted to the recent and active grades of the disease. I think it proper, however, to state that I have met with one case of rheumatism in which, though to all appearance a favorable one for its successful ehibition, the morphia failed in producing its beneficial effects.—*American Medical Intelligencer.*

Extraction of a Foreign Body implanted in the Uterus. By M. Maisonneuve, of the Hospital St. Louis.—This patient was thirty years of age on her admission to the hospital, Sept. 14, 1840. At the age of twenty-eight years she was in good health, became pregnant, and in the fifth month of gestation states that she miscarried and suffered from severe metro-peritonitis. She was obliged to enter the hospital La Pitié soon after she had begun to leave her room, where the surgeons diagnosticated metritis with hypertrophy of the anterior surface of the uterus. Various means were persevered in without effect, and when she came under the care of M. Maisonneuve her general powers were enfeebled, digestion bad, hectic at night, and she had dull continued pains in the loins and hypogastrium, which latter region was occupied by an irregular hard tumor, slightly painful on pressure, which filled the pelvis and extended into the iliac fossa. The os uteri permitted the entrance of the finger, but the body and neck of the organ were lost in an irregular, hard, and absolutely immovable mass. Examined by the speculum the vagina appeared to be in the normal state, and the only unusual appearance was abnormal patency of the os uteri, which permitted the

surgeon to see something whitish. He passed a stylet to discover the nature hf this substance, and was astonished to find that he could circumscribe the unknown object by passing the stylet before and behind it. It adhered to the lips of the os uteri on all sides.

Persuaded that this was a foreign body implanted in the walls of the uterus, M. Maisonneuve first endeavored to divide it with scissors, but could not. He then placed one beak of a pair of long polypus forceps behind and the other before it, and by careful traction removed, without causing much pain, a piece of wooden stick, 122 millimeters in length, pointed at one extremity and bent at the other. Looking to her account of the case, it appeared highly probable that this stick had been broken in the uterus during criminal efforts to produce abortion, and this opinion has been since confirmed.

The operation was followed by a return of abdominal and lumber pains, and great febrile reaction, which disappeared in about eight days under general bleeding, baths, and several applications of leeches. But there remained a tumor in the pelvis which probably resulted from chronic adhesions of the uterus, bladder, and rectum, with some of the intestines. However, by the 1st of January, 1841, the tumor had greatly diminished and the general health was much improved.—*Ibid, from Gazette Medicale de Paris. Avril* 3, 1841.

THE WESTERN JOURNAL.

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LOUISVILLE, SEPTEMBER 1, 1841.

PRIZE ESSAY.

It will be seen that the Prize Essay of Professor Yandell is inserted in this number, to the exclusion of our usual Review matter. And some of our esteemed correspondents must take this as an apology for the non-appearance of their communications. We shall present our usual variety in the next number, and will give insertion to some of the communications which have been delayed, though our limits will not admit of the great number that we have recently received.

The following is the report of the committee of the Medical Society of Tennessee, appointed to examine the essays on Bilious Fever.

"The committee, whose duty it was to award the prize to the successful essayist, beg leave to report, that they received four essays on Bilious Fever, for examination, and, after carefully examining them, unanimously award the prize to the writer whose essay bears the fol-

lowing motto: '*Sanos sospitare ægrosque sanare.*' The committee beg leave to deliver the essays over to the Society, with the sealed packet unbroken.

FELIX ROBERTSON.
JOHN H. ATKINSON.
THOS. R. JENNINGS.

Nashville, May 3, 1841.

"The Secretary being ordered to break the seal, it was found that Professor L. P. Yandell was the author of the successful essay.

R. MARTIN, *Rec. Sec'y.*"

MEDICAL SCHOOLS.

The Medical Department of the *University of New York* is at length fully organized, and its circular is before the profession.

Drs. Hall and Prout of the *St. Louis Medical School* have resigned their professorships; and Dr. W. Carr Lane of that city, and Dr. Richard F. Barrett of Springfield, Illinois, have been appointed their successors.

Dr. Jno. P. Harrison, late Professor of Materia Medica in the Cincinnati College, has been appointed to the same chair in the *Medical College of Ohio.* D.

MEDICAL INSTITUTE OF LOUISVILLE.

We are happy to be able to announce that the prospects of the Institute, in reference to the approaching session, are, as far as we can discover, unclouded. Letters are constantly reaching the Professors, from distant parts of the West, asking for information; and indicating that although its fourth and last class numbered 208, and was the third in the Union, the Institute is as yet almost unknown in various

parts of the country, whence in future it may expect liberal patronage. The last letters received from our colleague, Prof. Caldwell, announced that he was in good health, and had completed his purchases, embracing some articles of apparatus of the most splendid and useful kind, and valuable books, carefully selected from the bookstores of Paris, London, Dublin and Edinburgh, the whole of which have, indeed, reached the United States. Remaining in Europe long enough to attend the meeting of the British Scientific Association, he will be in Louisville in the month of October.

D.

STRAMONIUM IN NEURALGIC AFFECTIONS.

Prof. Short has put into our hands a letter from Dr. J. W. Richardson of Rutherford county, Tennessee, in which he cites many facts in favor of stramonium, in different neuralgic disorders. He prepares the system of his patient by vomits, purges, venesections and low diet; and then gives half a grain of the extract of stramonium, prepared according to the U. S. Pharmacopœia, every six hours, till dimness of vision is produced. D.

TREATMENT OF MILK-SICKNESS.

Dr. John Evans of Attica, Indiana, has sent us a short account of a method of treating this disease, pursued for some years past by Dr. Wilson of that town, and lately by himself, which he affirms is almost invariably successful. The prescription is as follows:

℞ Pulv. Rhei ℥i.
Magnes. Cal. ℥ss.—Mix.

A table spoonful to be given in mucilage every two hours, till purging is produced. If vomited up, a new dose must be immediately administered. D.

SYMPTOMS OF POISONING WITH WHISKEY.

Dr. J. Sweeny of Dripping Spring, Kentucky, was called to a boy 10 years old, who, several hours before, had drunk, at least a pint of whiskey. His prominent symptoms were, deep coma, with the eyelids partly open; the conjunctiva engorged, the pupils dilated and fixed, even in a strong light; inability to swallow; flushed cheeks; a discharge of frothy mucus from the mouth, tinged with blood; and violent convulsions. Death occurred without a subsequent examination of the body being made. D.

UNPUBLISHED CONTRIBUTIONS.

Meteorological Observations. Dr. C. B. Guthrie of Logan, Ohio, has favored us with the monthly results of one year's observations on the thermometer, which we were about to publish, when by taking their average, we discovered that they gave a mean annual temperature of only 47° the lat. being 39° 30'. This being at least 6° below what that latitude should give, we at once perceived something wrong. This was nothing else than the making of the observations, at such hours as not to give the highest temperature of the day. It is very desirable that all observations should be made, by different observers, at the same times, to-wit, early in the morning, and between 2 and 3 o'clock in the afternoon, otherwise their tables are not comparable.

Wound of the head and escape of a portion of brain—recovery. The same gentleman has given us the history of a case, in which, from the kick of a horse against the head of a boy four years old, a portion of the frontal bone, was driven in—the scalp and dura mater lacerated—and a considerable quantity of brain suffered to escape. The fragment of bone was raised and left *in situ*. In a week his little patient was running about the house. Such a recovery does credit to the surgeon in attendance; but the case does not present enough of novelty to call for its publication.

Tracheotomy—extraction of a grain of corn, 21 days after its introduction into the windpipe. Dr. M. G. Kreider has favored us with

the history of such a case. The symptoms were those of laryngitis, and he had no suspicion of a foreign body in the windpipe till three weeks after the accident. He immediately operated, and his little patient was restored. A more extended notice of the case seems unnecessary.

Abdominal Tumour. Dr. Harlon Hard of Waldo, Ohio, has narrated to us the symptoms of a remarkable tumour of this kind, the nature of which is doubtful. Whenever the case may terminate and its history be completed, it will be worthy of publication.

Tic Douloureux. The same gentleman has given us the history of a case of this hopeless malady, in which four operations had been performed on branches of the trifacial nerve, with no more than temporary relief. All the usual medicines had been prescribed in large doses, without effect. We should be happy to publish an account of the cure of his patient.

Imperfect palsy of the limbs of children. From Dr. Robert S. Newton of Gallipolis, Ohio, we have received the notes of a case of this kind, in which the paralysis occurred in the progress of a fever. His patient recovered. He mentions that several other cases of the same kind presented themselves about the same time. We hope to get a detailed account of the whole, and therefore do not publish that which has been sent us. Our readers will be reminded by these cases, of those published in the 2d vol. of the Journal as occurring in Xenia, Ohio.

Colchicum in Tetanus. Dr. Davius Maxon of Gallipolis, has given us a short notice of a case which he regarded as tetanus, not produced by local injury, in which two dram doses of the wine of colchicum appeared to be the chief cause of the recovery of his patient. As the symptoms were not altogether diagnostic of that disease, we consider this notice sufficient.

Fevers of Illinois. We thank Dr. Jethro Hatch of Vermillionville, Illinois, for a letter containing some interesting information relative to the autumnal fevers of that region—not, however, drawn up with the systematic care and fulness necessary for publication *in extenso*, nor susceptible of abridgement.

Sympathetic effects of Uterine diseases. Dr. Allen Kimbal of Fort Henderson, Alabama, has favored us with a brief report of eight cases intended "to show the influence of uterine diseases over the general

health of females in Southern climates." These reports have not the fulness that is desirable; in some of them the uterine affection seems to have been *secondary;* and, in general character, the whole of them are identical or exceedingly similar to cases which constantly occur further North. While, therefore, we thank our correspondent for his extended communication, and hope to hear from him again, we feel restrained from its publication. D.

RESISTANCE OF THE LIVER TO PUTREFACTION.

Dr. Solon Borland of Memphis, Tenn., has communicated to us the following fact: In the spring of the year 1840, Dr. Frayser of that place exhumed the skeleton of an Indian buried in 1836, and found *all* the soft parts decomposed, except the liver, gall-bladder and bile, which were perfectly natural.

WORTHY OF IMITATION.

A young physician writes us as follows: "Early in the morning I study Latin—in the afternoon medical subjects—at night practise composition. When I am sufficiently advanced in the Latin, I wish in the morning to take up another language. Which do you think would be more profitable, Greek or French?" How many young physicians of the West are engaged in the laudable and systematic effort to supply the deficiencies of early education, and at the same time extend their professional knowledge? We fear the number is very small; and still nothing would be found more delightful than the course of this young gentleman. Early in the morning, physicians are not, in general, occupied, nor have they, commonly, much to do after dinner, and after dark. The forenoon and the evening are the chief business periods. If every young physician would devote himself to special studies, at special times of the day and night, he would not only form habits of the most beneficial kind, but, in a few years, would make acquisitions in lit-

erature and science, of which at the beginning he might not entertain the slightest anticipation. By passing the first years of their career (if that indolent existence which has no progression can be called career) without methodized courses of study, they stamp their characters with an indelible inferiority. Nothing is more common than to meet with physicians, in middle or more advanced life, who have made important observations, which, from illiteracy and inexperience in writing, they are unable to communicate to their brethren; or if they attempt it, their communications bring disgrace upon them, if not re-written, or at least corrected by the editor. Alas! for the poor editor. He is obliged to make bricks without straw. Much of what reaches him has to be committed to the flames to be refined—a part flares up, like straw or any other light matter—a part is too soggy to burn. Copying, transposing, abridging, inverting, rotroverting, decomposing and recomposing, are the labors which another class impose upon him. The third and last, *pars minor*, may only require new punctuation. It is quite impossible to express the joyousness of heart, inspired by one of *these* compositions. He feels an emotion of gratitude, from the moment he begins to discover, that bilious is not ll'd—apoplexy, pp'd—and camphor not introduced with a k: that symptoms are not followed by the verb singular, and that the phenomenon, of giving phenomena a plural verb, is actually before his ravished eyes. All such, he prints *verbatim et literatim* if not *punctatim*, and ever afterwards regards their authors, as his friends and benefactors. D.

ORTHOPOEDIC INSTITUTION—PROFESSOR MOTT.

The profession will be glad to learn that Professor Mott of New York, well known as one of the most distinguished surgeons of the age, is about to open an institution for the treatment of club-foot, spinal curvatures, and other analogous distortions of the human frame. It is located at the village of Bloomingdale, on the banks of the Hudson river, six miles from New York, and is to be conducted on the same plan as that now in such successful operation under the direction of M. Julius Guèrin, the distinguished orthopœdic surgeon in Paris, and sev-

eral similar establishments on the continent of Europe. During his residence in the old world, embracing a period of six years, Dr. Mott paid particular attention to this class of deformities, and is therefore in possession, not only of ample experience, but also of the requisite apparatus. Such an institution has been long needed, and we need scarcely add that we wish its distinguished founder every possible success. G.

MORBID ANATOMY OF MILKSICKNESS.

We have received from Dr. J. V. Wagman of New Castle, Ind., an account of the dissection of a man who died of milksickness. The history of the case is not given, but the Doctor is familiar with the disease, and regarded this case as marked with the pathognomic symptoms. The patient, 30 years old, of regular habits and sanguine temperament, had a vigorous constitution, and enjoyed sound health up to the time of the attack. During the progress of the disease, he took no medicine, till a few hours before his death, when all that he swallowed was immediately ejected; so that whatever morbid appearances existed, might, as the Doctor remarks, be legitimately referred to the disease of which he died. The dissection was made fifteen hours after death.

The body was not much emaciated. The skin had a dusky yellowish hue.

The brain and its membranes exhibited nothing remarkable, except perhaps more than the usual quantity of serum in the ventricles.

The stomach presented a number of patches of light brown and scarlet colors mixed. In some places the mucous membrane was thickened and soft. The pyloric orifice was of a scarlet hue. The mucous membrane of the duodenum presented the same kind of patches with that of the stomach; and some parts were dry. The bowel itself, as well as the lower part of the stomach, was much contracted. The other small intestines were pale; the mucous membrane was softened. many portions of it were dry; the glands of Peyer & Brunner were swollen and soft, and some of them appeared to be ulcerated. The cæcum way dry. The colon contained hardened fæces, on which it

contracted closely; was drier than other portion of the tube; its color was a dark brown, with rose colored patches. The liver was of a dark color and seemed unusually friable under pressure by the fingers; the gall-bladder was much distended with a black pitchy bile. The pancreas was of a rose color and appeared rather soft. The spleen was much enlarged, of a deep brown color, and very soft. The peritoneum had reddish spots, and there was some increased effusion into its cavity. The kidneys, bladder, heart and lungs were sound.

It is proper, to say, that Dr. W. modestly intimates, that his experience in *post mortem* inspections has not been sufficiently extensive, to give him confidence in his own observations. From our knowledge of him, we have no doubt that he has aimed to make an accurate report of the case. We hope his brethren, in regions where the sick-stomach is endemic, will, as often as possible, follow his example, and like him favor us with the results of their examinations.

D.

CLERICAL ENCOURAGEMENT OF QUACKERY.

We can scarcely open a newspaper, without meeting with the advertisement of one or more quack medicines, recommended and avouched by clergymen. Now such is the confidence of the mass of the people in their spiritual pastors, that these certificates have in them a power, even greater than the forged testimonials of eminent, deceased physicians, so often seen appended to the same advertisements. Such being the case, we would respectfully ask our clerical friends, to whom we attribute no bad motive in this matter, whether they have ever reflected on the mischief they do to the community, by these recommendations? Do they not know, that if a nostrum be *inert*, a reliance upon it may destroy life—if *active*, that while it may relieve or even cure a few, it will kill many more? We would charitably believe, that most of these certificates are given, without due reflection. The majority of them are for cough mixtures, balsams, bolusses or lozenges, which are presented as infallible remedies, without reference to the nature of the disease in the lungs, by which the cough is produced. But the diseases of the lungs are of various kinds—re-

quiring different modes of treatment—and what may cure one patient will destroy another. If a clergyman, then, has seen a quack medicine relieve one individual, he is not justified in generalizing, and commending it to all who may, from the coincidence of a single symptom, fancy themselves in the same condition.

Medicine is an inductive science, the basis of which is a knowledge of the structure and functions of the human body. He who builds on this foundation, rests his superstructure on a rock—all others build on sand. How many of our clergyman, understand anatomy and physiology, beyond Dr. Paley's Natural Theology? We suspect, very few. We would ask these respected brethren, what they mean by orthodoxy? Is it not a full acquaintance with the letter and spirit of the Bible, and a faithful adherence to both? Now medicine, so to speak, has *its* orthodoxy, which consists in a profound knowledge of the principles of the science, and a reliance on them to guide us in practice, as the divine relies on the doctrines of the Bible to guide and govern him in preaching. If some ignorant layman, but superficially acquainted with that divine revelation and unimbued with its spirit, were to advertise a new exposition of its doctrines—a sort of patent mode of securing Heaven, what would our clerical friends say, if physicians who had never made the Bible a study, were to certify to the truth and efficacy of such a pretended discovery? They would, undoubtedly warn the people to beware. It would be a dereliction of duty for them to remain silent; and we, on the other hand, feel, that duty in reference to the health and temporal welfare of the community, commands *us* to speak out, in words of warning to the people, and of rebuke to such of their spiritual leaders, as travel out of their profession, to enlist under the banner of quackery in another.

D.

STAMMERING.

Much attention has been directed to this subject, in Europe, during the last few months; and we are glad to see, by a slip from a newspaper, which was handed us a few days since, that Dr. Toland of Columbia, S. C., has recently operated successfully. "The patient," says the editor, "is a boy about seven or eight years of age; and when we

saw and talked with him, on Monday last, only three days after the operation, he was completely cured—every vestige of the impediment to his speech being entirely removed." The operation was "simple, and very little soreness was felt three days after;" but the account does not state, and we have not heard through any other source, what one of the various operations recommended was employed. Dr. T. graduated in the Transylvania University about twelve years ago, and is a man of high respectability and promise in the profession.

MEDICINE IN PARIS.

London, May 29, 1841.

* * * * * "As respects the matters of our own profession, and the men most prominently concerned in them, I shall unite them under the same head, and offer a few remarks on them in that capacity. Of these things, in the two great capitals, London and Paris, which embody the best and the worst of all places on earth, I have not yet seen as much (so deeply have I been engrossed in business) as I purpose to see hereafter—nor have I perhaps seen enough to justify me in speaking positively of them, in all their characteristics and bearings. But I have seen a sufficiency of them, especially in Paris, to authorize me to assert of them unhesitatingly, and in the most unqualified manner, that, like most other things, they (in common parlance) '*loom largest at a distance.*' As you approach and scrutinize them, they sustain, in their magnitude and importance a strong-marked diminution.

"In Paris (I speak of the Hospitals, attended of course by the most eminent men the capital contains) true *disease-curing* and *life-preserving* medicine and surgery are but little known or regarded—most assuredly they are but little *practised.* Into those ancient and vast repositories of disease and misery, whose walls are taught to echo but to sighs and moans, patients are received but to be *ausculted* and otherwise *diagnostically* treated, die and be *post-mortemized,* for the instruction of the *eleves, internes* and *externes,* and the improvement of the profession by furnishing the *material* for writers and printers—and there the process ends. As it has appeared to me, an anxiety to

cure the sick and suffering, entrusted to their care, neither disturbs the repose, nor interferes in any way or degree, with the jollity and enjoyments of the hospital practitioners, whatever may be the departments of the profession in which they labor. If, by post-mortem inspection, the *physician* can prove the accuracy of his diagnosis, his end is attained. And the surgeon is satisfied with a dextrous and showy operation, though the subject of it should die, and be under the dissecting knife of some hawk-eyed *hospital-walker*, in an hour afterwards. Nor are these facts, extraordinary and even *fictitious* as they may appear, either denied by the Faculty of Paris, or complained of by the public. It was distinctly stated to me, by a gentleman, whose information, accuracy and regard for truth I could not question, that he had heard M. V. and other surgeons openly say, when preparing to operate, 'this patient will certainly die, perhaps the *sooner* for the operation; but the profession *may* be benefited by it. We shall therefore proceed.' Accordingly, with finished tact and adroitness, and, with the utmost degree of show of every thing but *feeling*, the instruments are flourished, and the operation performed—and the patient (all at least that remains of him) is promptly removed, that the table may be ready for the reception of another, who is similarly dealt with—and thus—and thus—until the drama of the morning is closed. I say 'of the morning,' and very early in the morning too; for the physicians and surgeons never visit the hospitals at any other time. And, for *surgery*, the custom is attended with no *great* evil—if with *any at all*. But, for the *practice of medicine*, it is fraught with mischief—the morning, as every one knows, being the time when the most characteristic and instructive symptoms of disease are exhibited in the faintest and least *communicative form and degree*. True; auscultation and the other elements of diagnosis and symptom-hunting may be then practised with perhaps sufficient accuracy; and they make nearly the whole subject of the practitioner's regard. I ought to have said, of the *expectant's* regard. For the symptoms and diagnoses being mastered, and announced, the physician considers his duty performed —at least he might as well so consider it; for in the form of actual practice and cure, he does positively nothing. The plan he pursues, with his *three*, *four*, or *five* leeches, applied to the body of an adult, his gum and sugar-water potions, his thimble-full or two of magnesia, his lavements of tepid water, and his other foolery of the like description—such professional trumpery as this, constitutes as literally the

medicine expectante, as even the imposture of Hahnemann and his followers, when they administer their drugs in *millionths* of grain doses! Nor is it by the *medical* attendant alone that this farce is enacted. The course of the *surgeon* is nearly the same. The *operation* being performed, his patient is surrendered to the manipulations of others; while he perhaps never sees him or thinks of him again.

From these considerations, and many other kindred ones, which cannot be embodied in the compass of a letter, I have no hesitation in believing that Parisian practice, both medical and surgical, is more successless than that pursued in any other *cultivated* portion of the globe. And indubitably more so than that in any *uncultivated* one; where, in cases of disease, nature, in her undiminished vigor, and in a course free at once from restraint and obstruction, is left almost entirely to her own resources, in her efforts to restore health. In verification of these remarks, take the following facts, extracted from innumerable others, which might be cited.

"The Hotel Dieu is at once the oldest, I believe the largest, and certainly the most celebrated hospital in the world. And its attending Faculty rank with the ablest that Europe can boast. Yet, when the *cholera* came down on Paris, in 1830 or 31, of the first 600 patients received into that *great mortuary*, only ONE survived; and of the first 1000 only FIVE!!—a spectacle of mortality never witnessed *before*—nor even *then*, in any other portion of the world.

"For this surpassing degree of mortality in Paris, there no doubt exist other causes, apart from the unskilfulness of physicians and surgeons. Inattention and recklessness do their part in the dismal waste of life. Notwithstanding their urbanity, kindness, keen sensibilities, and vivid sympathies, the French set, in the abstract, a lower estimation on life, and are therefore more regardless of saving it, than any other people I have ever known—and I believe of any that exist. They realize, in its full extent, the great truth, that '*man is born to die;*' and of the time and manner of death, they make but little account. And this sentiment, if I mistake not, makes its way into the practice of medicine and surgery. Hence the struggle of the practitioner to triumph over disease is neither eager nor obstinate. Nor is this all.

"The mass of Parisian hospital patients are of the *lowest orders* of the *low;* whose subsistence and mode of life are inconceivably wretched. Hence the stamina of their systems, originally feeble and defec-

tive, are rendered much more so, by subsequent causes, such as scanty and unwholesome food, a vitiated atmosphere, labor beyond what they can bear with impunity, and, in too many instances, life-wasting dissipation and profligacy. No wonder, therefore, that when under the shattering influence of so many deleterious and powerful agents, they are unable to sustain the shock of disease. I need hardly add, that the causes just cited, which modify so deeply and injuriously the human constitution, must necessarily inflict on it complaints correspondingly modified in form and malignity.

"Under all these circumstances, which are notoriously true, is it not matter of astonishment, that, in the United States, the Parisian schools of medicine and surgery are held in such supreme estimation, as we know is attached to them? Admit, if you please, that French practice *may* cure *French men;* it *kills* Americans, as numberless facts bear positive testimony. The following is one of them:

"A young American, who, as the phrase runs, was walking the French hospitals, was attacked last autumn by *enteritis*, and placde himself under the care of M. V., one of the most celebrated of the Parisian Faculty, both as a teacher and a practitioner. For this disease, which was very violent of its kind, the prescription was *five* leeches to the abdomen, water sweetened with beet-sugar to be taken *ad libitum*, and a *lavement* of cold water to be administered *twice* a day. Meantime another young American, then in Paris, who had practised medicine about a year in South Carolina, visited his sick friend, and, deeming his complaint seriously threatening, entreated him to take immediately an active purgative, composed chiefly of calomel and opium, to have a vein opened, and a large blister applied to the abdomen. In deference to the French physician, the advice was neglected; and in forty-eight hours more, the patient was a corpse!

"Still however, it is regarded as an important feather in the cap of a young physician, in the United States, to have passed some time, and expended his money, in attendance on schools and *amusements* in Paris, and in strolling through Switzerland, and visiting Rome, and other parts of Italy. On this fashionable tour of education, I shall perhaps make known my opinion more fully hereafter. I shall only, at present, therefore, express my conviction, that, in most cases, it is not only *useless*, but *injurious*—and too often productive of absolute ruin."

C. C.

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THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

OCTOBER, 1841.

ART. I.—*A Memoir on the Treatment of Bubo.* By DR. MARCHAL (DE CALVI.) Translated from the French for the Western Journal, by THOMAS W. COLESCOTT, M. D., of Louisville.

The name of venereal bubo, or more simply and more generally of bubo, is given to acute or chronic inflammation of the lymphatic ganglia, arising from the venereal virus—an inflammation accompanied, when acute, with that of the surrounding cellular tissue.

The word bubo is derived from the Greek *Boubon*, which signifies groin. Among other inconveniences, it has that of making one suppose that the affection which it serves to designate is developed in the groin alone, whereas it may be produced, though rarely indeed, in other parts. However, as

a denomination is advantageous when its meaning is well-settled, and as that of bubo leaves nothing to be desired in this respect, it will in all probability be retained in the science to the exclusion of the term adenitis.

The following is a particular form of abscess, something like bubo, to which Hunter has drawn attention: Sometimes in consequence of ulcers or chancres existing on the glans or the prepuce, the lymphatic vessels of the penis inflame and appear under the form of hard cords, which are lost on the root of the organ, on the pubis, or in the inguinal ganglia. Hunter explained this phenomenon by the thickening of the parietes of these vessels, and the effusion of a quantity of coagulable lymph upon their inner surface. These vessels, thus inflamed and thickened, may suppurate in one or more points, and give rise to one or more abscesses. An analagous phenomenon occurs in simple angio-leucitis,* in which abscesses of greater or less size are observed to occur here and there, at those points where the inflamed vessels meet in great number and form a net work.

Hunter was acquainted with some very rare examples of bubo in the hollow of the axilla. He saw cases in which syphilis had been contracted by a sore or cut upon the finger. When this happens, if a bubo is formed, it occurs at the bend of the arm† or at the inner side of the biceps muscle, rather than in the hollow of the axilla. (S. Cooper.)

The groin being almost the exclusive, and in some degree the natural seat of the venereal bubo, it is to inguinal bubo that we shall confine our remarks. In the groin itself, the seat of bubo is subject to variation. Hunter observed one, in a male, situated very far outwards on the thigh; he has likewise noticed them above Poupart's ligament, and in the

*Inflammation of the lymphatic vessels: from *aggeion*, vessel, and *leakon*, white, the termination *itis* being added.—*Tr.*

†Cooper intends to say above the epitrochlea, or inner condyle, as there are no ganglia at the bend of the arm. (Our author has mistaken Cooper's meaning; his expression is: "a little above the bend of the arm, by the side of the biceps muscle, etc." See Dictionary of Prac. Surgery, by S. Cooper; art. Venereal Disease.—*Tr.*)

neighborhood of the pubis. It is an interesting remark, that neither the ganglia of the iliac region, nor those existing along the vertebral column, are ever affected with bubo, which is explained by anatomical reasons (vid. infra.)

In the female the seat of bubo, equally variable, is subordinate to that of chancre. This subordination, as indicated by Mr. Samuel Cooper, in a manner which might be more precise, is as follows: if the chancre exist near the meatus urinarius, the nymphæ, the clitoris, the labia, or the mons veneris, the bubo is found near the place where the round ligament passes out of the abdomen, sometimes lower down in the groin: if the chancre is situated lower down towards the perineum, the ganglionic inflammation manifests itself in the angle resulting from the junction of the thigh with the labium. It will be seen presently that a bubo caused by a pre-existing chancre, is a very rare occurrence. What becomes then of the subordination established by the English author?

Dr. Denis has seen buboes developed in the female, though rarely, at a greater or less distance down the thigh, within two or three fingers' breadth of the top of the member, sometimes in the course of the crural artery, at other times farther inwards.

The ganglia of the groin form a superficial and deep-seated group. Of the former, some receive the vessels of the external genital parts, and those which creep beneath the sub-cutaneous fascia of the abdomen; others, most of the superficial lymphatic vessels of the inferior extremity. Such of them as receive lymphatics from the parts of generation are situated in the fold of the groin or in front of the ligament of Fallopius; the others lower down and within. According to Prof. Velpeau, the former alone would be the seat of bubo proceeding from a virus absorbed by the lymphatics of the genitals. "The others do not swell except under the influence of a disease of the abdominal member." This disease may be a venereal ulcer between the toes; the bubo itself is then syphilitic. But does it never happen that the lymphatic vessels of the parts of generation, by some irregularity, go to the infe-

rior ganglia? and might not these then become the seat of bubo, in consequence of a virus absorbed by the vessels just named?

A distinction relative to the seat, for which we are indebted to Desruelles,* is that which divides buboes into superficial or supra-aponeurotic, and deep seated or sub-aponeurotic; it is important, particularly in relation to the prognosis, as a deep-seated bubo, in which the inflammation is confined by the aponeurosis, must give rise to more intense inflammatory symptoms than a superficial one.

This distinction is opposed to the following opinion of Velpeau:† "The deep-seated ganglia, to the number of three, four, or five, surround the femoral artery, are situated between the two lamina of the fascia lata, and communicate with the preceding (the superficial) by means of minute arteries, veins and lymphatic trunks. As these radicles ought apparently to transmit to the deep-seated ganglia the diseases of the others, it is remarkable that buboes should multiply beneath the skin, and remain there for a considerable time, without any being formed in consequence thereof in the crural canal." Notwithstanding this passage, as direct communications exist between the superficial and deep-seated ganglia, by means, too, of lymphatic vessels, it seems to us possible for the syphilitic virus to be carried from the genitals to the superficial ganglia, and from these to the deep-seated. We think, therefore, that the distinction of Desruelles is not impaired by the anatomical reasons that have just been discussed, and that it deserves to be retained.

We admit that the acute bubo consists rather in inflammation of the surrounding cellular tissue than in that of the ganglion itself. The inflammation of the latter is but the starting point and, if I may say so, the first stage of the bubo.

The following sentence from Velpeau expresses our tho'ts upon this subject very well: "There are two orders of patho-

*Traite pratique des maladies veneriennes: Paris, 1836, p. 527 et suiv.

†Anatomie Chirurgicale, 3d. edit., Paris, 1836, t. ii, p. 528.

logical phenomena. Some, primitive, the product of the specific cause, take place in the ganglia themselves; others, secondary, acting as if they depended on any other cause, have their seat in the surrounding cellular tissue."

It does not follow that the ganglion itself may not suppurate. But suppuration of the ganglion, in bubo, constitutes the exception. The general fact is inflammation and suppuration of the cellular tissue. Velpeau teaches that in cases of inflamed absorbent ganglia, the suppuration may take place, 1st. in the ganglion; 2d. in the cellular tissue subjacent to it; 3rd. in the cellular tissue found in front of it; 4th. in the whole surrounding cellular tissue; 5th. and lastly, at once before, behind, and in the ganglion, which presents a kind of canal through which the pus of the anterior part communicates with that of the posterior. The abscess then presents the form of one of those double buttons used to fasten shirts.

What is the mode, or rather what are the modes of production of the bubo?

A first mode admitted by Hunter is that in which the pus of a gonorrhœa or a chancre, applied to a healthy surface, does not produce any local effect, but is directly absorbed. This mode, according to Hunter himself, is extremely rare. We admit perfectly that a bubo may be thus directly formed, without any other venereal symptoms being produced; but we do not think that a bubo can ever be produced by the pus of gonorrhœa, so that we adopt the proposition of Hunter with a reservation.

The most frequent mode, and the one which constitutes the rule, is that in which a chancre has existed prior to the bubo, or that in which a chancre and a bubo are developed at the same time. In this last case, it is very evident there can be no relation of causality between the two. The mode of production is the same as above; only the bubo is accompanied with a chancre.

When the chancre has existed previous to the bubo, a question is presented: Has the chancre given rise to the bubo, or were the two symptoms, as in the preceding case, produced at

the same time, although one appeared before the other, a circumstance readily conceived, seeing that, to produce bubo, the virus had to pass through a certain extent of lymphatic vessels, whilst for the chancre no such thing was necessary? We think both circumstances may occur. However, if it is considered that, very frequently, the chancre which precedes a bubo is scarcely perceptible, that, consequently, it furnishes but a very small quantity of pus for absorption, supposing it to furnish any, it will be admitted that when first a chancre and then a bubo are formed after impure coition, they are most frequently a simultaneous effect, and not the effect of one another. It may be seen, from this, how rare consecutive buboes would be, that is to say, those produced by a chancre already existing in the same individual. To recapitulate, it seems to us the following propositions may be established relative to the production of bubo:

1. A bubo may be communicated directly from the male to the female and from the female to the male by the pus of a chancre, without any other symptom.

2. A bubo may be produced directly and a chancre be produced at the same time, so that they are manifested simultaneously, independently of each other.

3. A bubo may be produced directly, and a chancre be developed at the same time, independently of each other, in such a manner, however, that the chancre is manifested before the bubo.

4. A chancre may give rise to a bubo in the same individual.

Hunter, Assalini, and several other surgeons, have observed that mercurial frictions sometimes give rise to ganglionic engorgements in the inguinal region.

It is generally easy to distinguish the swelling produced by an inflammation of the ganglia of the groin from any other tumor of that region. Let us not forget, though, that this inguinal region, so interesting and so complicated in a surgical point of view, has been the seat of very serious errors. Cullerier, supposing that he was about to open a bubo, plunged

a bistoury into an aneurismal tumor. This is a case that Prof. Marjolin never fails to relate in giving the history of abscesses. The surgeon recovered from his surprise, but nothing was prepared for so dreadful an occurrence. The wound was plugged with charpie thrust into the cavity of the tumor, and a compressive bandage applied. The hemorrhage was arrested, and the surgeon was happy enough in saving his patient, who eventually got well.

In relation to herniæ, two things may occur: the bubo may be mistaken for a hernia, or a hernia be mistaken for a bubo. The first happened to Sabatier. The case was that of an officer who, after a violent exertion, had observed an indolent tumor appearing in the inguinal region, without any change of color in the skin; he had, besides, no suspicion of the venereal affection. Sabatier directed a truss to be applied; the symptoms became more decided, and the mistake was discovered. Here every thing had concurred to obscure the diagnosis. Should not the circumstance of the exertion have seemed decisive? We have said that in other cases, and more frequently, a hernia is mistaken for a bubo. The observation related by Louis, in his memoir on herniæ with gangrene, is well known. Dr. Burdin, the younger, (see the memoir of Dr. Mondiere, in the *Archives*, 2nd series, vol. iv,) has related the case of a man who carried in the groin a tumor that was unattended by any change of color in the skin, and was mistaken for a bubo by one of the most celebrated surgeons of the capital. Other physicians were not of this opinion; the patient, on his part, affirmed that he had not been exposed to the venereal infection. The tumor was opened; a worm and some fecal matter passed out. A case nearly similar to this is likewise reported by Mondiere, who says he had it from Dezeimeris. It will be observed that the error is not equally serious, to mistake a bubo for a hernia, or a hernia for a bubo. In the former case, the patient may be made to suffer by the application of a truss; but this is almost the only mischievous occurrence that can befall him. In the other, the tumor may be cut into, and a fold of intestine opened.

The possibility of such errors, and, above all, the fact that surgeons of the first merit have committed them, should put one on his guard. It is unnecessary ever to exaggerate the difficulties of diagnosis; for a person never should act lightly and without having reflected on the chances of error.

If, in most cases, it is easy for the surgeon to recognize that he has to deal with an engorgement of the inguinal ganglia, still it may be difficult to learn the nature of that engorgement. If a chancre exists, and there is at the same time inguinal pain, the question is not doubtful. If there is gonorrhœa, it may still be said that the patient was exposed to venereal contagion; the only point then will be to know if the bubo is of the same nature as when a chancre exists or has existed, a question which will be examined presently. If there is neither chancre nor gonorrhœa, and if the penis bear no cicatrix that would refer to the former existence of a chancre, it may be very difficult to come to a decision. We have admitted with Hunter, as the reader has already seen, the possibility of primitive buboes, but we assert that real difficulties attend the surgeon in their diagnosis. Often he will have a suspicion equivalent in his own mind to a certainty, and yet he dare not, he must not express it, for, despite all appearances, the charge he would bring against the patient might be unjust. Let us speak only of what takes place in a body of soldiery. When a man has been sent to the hospital on account of a venereal affection, at the time of his discharge, he is punished by being made to stand guard fifteen days;* sometimes indeed the punishment is more rigorous. This, it may be said in passing, is a statutory provision questionable in its justice, and liable to be impugned as to its results. It would seem that a man is sufficiently punished for his inability to resist the impulses of youth, by the sufferings he has experienced and by a long sojourn in a hospital. On the other hand, the measure in question remedies nothing; the officers

*The original runs thus: "*il est puni de quinze jours de consigne:*" it is not without some misgivings that I have ventured to translate it as above.—*Tr.*

who enforce it, do so merely in obedience to received orders, persuaded that the punishment inflicted is completely useless, useless for the individual, who will relapse as soon as he shall have the desire, and useless, by a still stronger reason, as an example. In short, not only is this measure ineffectual, it is likewise dangerous, because, to avoid being punished, the soldiers sometimes succeed, notwithstanding inspection, in concealing their disease, and treat their own cases, or abandon themselves to the rapacious ignorance of charlatans. Be this as it may, let us suppose that, in a soldier, who will be punished should his malady be pronounced venereal, an inflammation of the inguinal glands is developed, without there existing either chancre or gonorrhœa; let us suppose furthermore, of course, that the patient declares he has not been exposed to the contagion; how can it be affirmed that a bubo exists?

If it were true that bubo had no other seat than the ganglia in the fold of the groin and in front of Poupart's ligament, and that these could inflame under the influence of the syphilitic virus only, there would no longer be any question. But, on the one hand, we have seen that bubo may be developed lower down; on the other hand, nothing proves that the inguinal ganglia may not inflame from any other cause than the venereal virus, for example, in consequence of a prick of the foot; so that the difficulty remains the same. Happily it is rarely presented; the venereal bubo, without previous or concomitant chancre, whereby it may be known, being itself very rare.

The bubo caused by the virulent pus of a chancre, no matter by what mode in other respects it has been produced, differs essentially from that which may result from gonorrhœa. In the former case, there has been infection; it is a virus absorbed and carried into the ganglia, that has produced the disease: in the second, the ganglia have been irritated and inflamed through sympathy; it is irritation of the urethral canal that has produced the ganglionic inflammation in the groin, just as it frequently happens that a puncture of the fin-

ger is followed by the formation of a phlegmon in the axilla, beginning in the axillary ganglia. Both diseases are venereal, since, whether there was chancre or gonorrhœa, the cause was venereal; but one is venereal from its cause as well as from its nature, the other from its cause alone, and its nature is exclusively inflammatory.

Passing by the symptoms of bubo, which we suppose are known, we come to the treatment, in which we shall have in view exclusively the bubo essentially venereal, the bubo properly so called, that is to say, the one which results from the virulent pus of a chancre. It is necessary to bear in mind that there are always two elements in this bubo, the virulent and the inflammatory, which are the product of one another. It is useless to call in question one of these merely to admit the other. To see in a bubo none but the inflammatory element, is to see but half the disease; it is to recognize the effect to the exclusion of the cause. It is not more possible to deny the venereal virus in its results, than the spermatic liquid in its results. Syphilitic affections are propagated by means of their virus, just as the animal races are by means of the seminal liquor. It is in both cases the same power in a reproduction faithful to its primitive types.

Bubo is acute or chronic, openly inflammatory or indolent. The treatment differs in these two cases.

Treatment of the inflammatory or acute bubo.—The object of this treatment is to disperse, to break up the inflammation, or, the termination by suppuration being unavoidable, to evacate the tumor, and induce cicatrization of the wound. It is therefore abortive or curative.

Abortive treatment.—This should always be tried when the patient presents himself at a stage in which resolution is still possible. There is an idea among the vulgar that if a bubo be prevented from suppurating, the virus remains in the economy. This idea is not without foundation. When the surgeon, neglecting the generative element, essential to the bubo, merely combats the inflammatory symptoms, it is very possible that the virus will remain. It need not be said that

these are old doctrines unworthy of being revived. To determine inflammation, the venereal virus, like any other irritative agent, requires blood; if leeches are applied on the point where it has been carried, and if, by this means, aided by some others, it is deprived of the necessary sanguineous element, it will most assuredly remain inactive at the point indicated; but there is nothing to show it may not be absorbed, and exert its disastrous influence elsewhere. It is our opinion, therefore, that, whatever be the means locally employed, unless the mercurial ointment is applied by frictions, which will be considered below, recourse must be had at the same time to general remedies, capable of acting upon the secretions or in a specific manner, and thus of expelling or neutralizing the virulent principle. We do not believe that the eighth of a grain of the deuto-chloride or proto-iodide of mercury, for a fortnight, and the use of sarsaparilla for a month, can, in any case, produce bad results. On the contrary, we have seen the most advantageous alterations effected in the general nutrition under the influence of these remedies. Frequently, in patients submitted to their use, not only do the inflammatory symptoms diminish, but likewise the appetite augments, and very soon the plumpness becomes decided.

In a garrison where we were detached with a battalion, we treated, at the infirmary of the regiment, a number of buboes in the formative stage; and the following is the method pursued by us: deep cauterization of the chancre with the acid nitrate of mercury, repeated according to necessity; application of twenty leeches to the bubo; from the beginning, a pill containing one-eighth of a grain of the proto-iodide of mercury every evening, and a pot of the decoction of sarsaparilla every day. In other respects, the antiphlogistic regimen as long as the inflammatory symptoms lasted, then the ordinary regimen. This mode of treatment has succeeded perfectly in our hands.

If the inflammatory symptoms are not sufficiently modified by the first application of leeches, no fears need be entertained of repeating it one or more times, since if the local inflam-

mation does not succeed in resolving the bubo, it still serves to limit its extent and diminish inflammation.

The object in cauterizing is not merely to prevent the secretion of virulent matter by the chancre, but likewise to induce its prompt cicatrization. If, however, the chancre be pretty large and inflamed, cauterization must be laid aside, although it is more successful than one would suppose even in such as are inflamed.

After leeching, some surgeons advise the application of ice. In a case where it was of great importance that a bubo and a chancre of the prepuce should be got rid of as quickly as possible, we directed twenty leeches to be applied, and followed during two days by ice; the cure of the bubo was complete at the end of that time; the chancre, which was cauterized twice, did not heal for eight days. No conclusion should be drawn from this case, which is certainly exceptional. Dr. Denis has in several instances seen the symptoms exasperated under the influence of ice, and has renounced the remedy.

Hunter, in order to bring about the resolution of the bubo, employed mercurial frictions upon it. He thought that resolution depended on the amount of mercury that might be absorbed, and admitted that certain buboes were too little developed to take up a sufficient quantity. In this case, he advised the frictions to be extended to the thighs. The mercurial inunctions, according to him, cured at once the ganglionic inflammation and the general infection. Delpech was equally partial to the use of this remedy, which, however, is not now employed in France, at least not as a means of resolving the acute bubo, since, if it is capable of modifying the virulent element, it acts less promptly and much less surely against the inflammatory element, than local blood-lettings, in conjunction with emollient applications.

Simple vesication, as a discutient remedy, does not seem to us to be any more productive of advantageous results. We have seen a blister, applied to an inguinal bubo in an officer, bring on suppuration, though the tumor appeared to have a manifest tendency to resolution.

The only means of rendering the blister pretty certainly discutient or resolvent would be, perhaps, to make it of enormous size, like those long ago successfully employed by Prof. Velpeau at La Charité, and which he significantly terms *monster-blisters* (*'vesicatoires-monstres.'*) Otherwise, we do not hesitate to affirm that vesication, instead of being resolutive is essentially maturative. In no case ought the blister to suppurate. Indeed, if it is conceivable that an acute irritation, sudden and extended over the skin, could violently remove the inflammation of the sub-jacent ganglia, this is not understood of a deep and slow irritation like that of a suppurating blister, which is far more capable of producing an inflammation of the neighboring ganglia than of dispersing it.

Another discutient means has been indicated by surgeon-major Malapert and adopted by Dr. Renaud of Toulouse. It consists in the application of a blister the size of a three-franc piece, and dressing the denuded surface with a solution of the deuto-chloride of mercury. An eschar is formed the thickness of which, owing to the presence of a certain quantity of lymph, is greater than that of the portion of skin destroyed. Ricord has given to this method the name of *mediate cauterization.* It is extremely painful. There are patients who, with the utmost resignation, cannot keep the pledget saturated with the sublimate. Besides, the employment of this method leaves a very extensive, indelible cicatrix, an unwelcome result which the surgeon ought to use all his care to avoid. Lastly, it is often ineffective. In a number of cases in which it was tried at the hospital of Gros-Caillou, by Denis, and at the military Hospital, by Desruelles, it did not prevent the bubo from suppurating. Therefore, although it has obtained the sanction of Ricord, and originated with one of our most distinguished colleagues, we do not hesitate to give our verdict against a method which has the double inconvenience of being uncertain and very painful.

Many practitioners make use of compression after the inflammatory symptoms have been sufficiently modified. Dr. Denis frequently employs this means after one or two applications of leeches, and derives good effects from it.

Hunter, according to Mr. Samuel Cooper, (Dict. of Practic. Surgery, art. Syphilis,) was favorable to the use of emetics in the treatment of bubo, and accorded to them the power of resolving the ganglionic inflammation, even after pus was distinctly formed. We merely refer to this as the opinion of a great surgeon. In France, the tartarized antimony has never been applied to the treatment of bubo.

A last discutient remedy has been recently advised, and consists in multiplied punctures. The punctures with a lancet act, says Dr. Aubry,* like true local blood-lettings, by relieving the engorgement of the parts; accordingly there should be no fear of making them deep; experience indeed has demonstrated that it is important for the point to penetrate the ganglia, and divide the fibrous envelope. This means, since the notice of Aubry, has been tried by several surgeons, among others by Barthélemy, who has charge of the venereal wards in the military hospital of Picpus, and it seems to have been productive of good effects. The surgeon just mentioned is at this moment making trials upon a large scale. We cannot help thinking, however, leaving our opinion to be corrected by future facts, that punctures, as a means of procuring resolution, must be a less certain mode of treatment than that by antiphlogistics and specifics, to which, until more ample information is obtained, we give the preference.

Curative Treatment.—When the patient has been tardy in presenting himself to the surgeon, or when the means proper for arresting the inflammatory action have failed, an attempt must be made to moderate the inflammation and limit the suppuration.

It seldom becomes necessary to bleed individuals affected with bubo. Leeches, on the contrary, may, and often, must be employed, they having the power, more than any other remedy, of restricting the phlogistic effects of the virus. Cataplasms of ground flax-seed, or, if these irritate the skin, of bread and milk, should be applied lukewarm to the tumor. Rest in the horizontal posture, and flexion of the limb should

*Gazette Medicale. August 15, 1840.

be prescribed, especially if the bubo be deep-seated. The patient should use the tepid bath: local bathings, says Ricord, and this is likewise the opinion of Dr. Denis, are of very little service. In addition, mild purgatives ought to be used, according to necessity, so that the flow of venous blood in the parts around the pelvis may not be obstructed by the accumulation of fæcal matter. The patient should be put upon a mild diet. When nothing opposes, he should take daily a quart of the decoction of sarsaparilla.

Such, briefly, are the means to be employed until fluctuation indicates that pus has been formed to which it is time to give vent. Authors have established important rules respecting the mode of ascertaining the fluctuation.

In some cases, fluctuation exists at the centre only of the inflamed mass, and then it forms, according to the expression of Dr. Ricord, a sort of *artesian well.* A person may be deceived, though hardly if he has any experience, by the softness of the ganglionic tissue, and believe pus to be present when there is none. The quantity of matter that a bubo encloses is a frequent source of deception, as no one would imagine it to contain as much as it does, particularly when, being sub-aponeurotic, it spreads under the aponeurosis, and gains in breadth and depth what it lacks in heighth externally.

Let us suppose fluctuation to be well established. Hunter was for waiting until the skin became very thin, a precept that we cannot adopt; in fact, to wait until the skin is thinned, is to condemn it to inevitable destruction by ulceration, or by the means of art.

The moment having arrived to open the bubo, how is the operation to be performed? This leads us to speak of the method by punctures, pursued at the military hospital of Gros-Caillou, in the wards of Dr. Denis, the surgeon-major, one of those enlightened and conscientious practitioners whom it is necessary to make known, because they are too modest to reveal themselves. The note of Dr. Aubry apprises us that Cullerier has been employing multiplied punctures in the treat-

ment of bubo for a long time at the hospital *du Midi;* it is certain that this means has been used by Denis for at least fifteen years. The question of priority remains, therefore, in suspense.

In the beginning, Dr. Denis employs the antiphlogistic treatment, according to the intensity of the inflammatory symptoms. He has observed that mercury, during the period of irritation, had a great tendency to act upon the gums, and he abstains from its administration at that period. We ought to remark that we do not share the apprehensions of Dr. Denis in this matter, since, if the metal is employed with moderation, it is not difficult to arrest the untoward effects it may produce on the mouth, and besides, when it has been thus wisely administered, it very seldom occasions them.

The necessity of caustic generally betrays the surgeon, as it depends solely upon the extreme tenuity of the skin, a portion of which has to be removed, and as this tenuity itself results from the delay in opening the abscess. The application of caustic creates a considerable sore, which is slow to heal, and, after recovery, leaves a much more striking cicatrix than when a cutting instrument has been employed. The latter, therefore, unless from timidity on the part of the patient or extreme thinness of the skin, should be preferred to the caustic.

Now, how should the bistoury be used in opening a bubo? An aperture of greater or less extent is generally made along the bend of the groin, or in the vertical direction, as Velpeau often makes it, and in our opinion more rationally. When the bubo is of small size, it is recommended to practice a simple puncture. But the cases in which this is possible are rare. Frequently when this has been done, the pus has been known to stagnate and detach the adjacent parts. The most frequent practice consists then in making an incision of greater or less length, sometimes very extensive; now experience proves that incisions of this kind, although far preferable to the caustic, require a long time to cicatrize, often render excision of the edges of the wound necessary, and leave a very

marked cicatrix, all of which inconveniences the process employed by Dr. Denis is designed to avoid. This process is as follows:

Instead of a single very extensive incision, he makes several punctures, the number of which varies from two to three or four, according to the extent of the tumor, and what is important to notice, corresponding to the extremities of the bubo, so as to give exit to the pus at the moment it is about to spread among the adjacent parts and detach them. If the bubo does not exceed the ordinary size, he is satisfied with two punctures at the extremities of its greatest diameter; if it is very considerable, he makes one or two others at the extremities of the opposite diameter. During the first few days, some bits of charpie are introduced into the small openings, to keep them from closing. In those very rare cases in which a single puncture will suffice, Dr. Denis acts in the ordinary manner. It is proper to make the punctures perpendicular or oblique in reference to the fold of the groin, as is done by Cullerier.

The punctures being disposed at the extremities of the bubo, a slight pressure at the centre suffices to evacuate it, and the skin is not involved at the point where it is thinnest, and where there is most need of preserving the vessels; from this two-fold circumstance results an easy detergence and the prompt re-attachment of the fundus of the abscess to the teguments which have retained their vitality, so that, finally, complete cicatrization ordinarily occurs from eight to ten days after the operation. A striking advantage, the greatest perhaps attached to the multiplied punctures, is that the cicatrices are scarcely discernible, often imperceptible. Indeed, it was in a great measure the desire to avoid, in females particularly, large and deep scars, lasting stigmas of shame, that led Dr. Denis to conceive this process.

The very simple method of operating just indicated might be very well applied, in a great many cases, to the opening of ordinary phlegmons, and we do not doubt that it will come into very general use.

A method that resembles the preceding as to its results, though it differs remarkably as to the means, is precisely that of surgeon-major Malapert, which has already been considered. When the blister is applied, and afterwards the solution of corrosive sublimate, in a case where suppuration takes place, small eschars are observed at the surface of the bubo that soon fall off, and leave openings through which the pus makes its escape. This mode of treatment has been particularly employed by Renaud, from whom it was copied by Vidal (de Cassis), who has frequently used it with success in the venereal hospital. Considered in itself, this method is advantageous; compared with the multiple punctures, it is much inferior. We have already said how painful it is.

Vidal, who has also employed the method by puncturing, has several times used the scarificator in practicing it.

Dr. Denis does not prescribe mercury to all his patients affected with bubo. In the administration of this article, he is guided by the aspect of the sore, its tendency to cicatrization, and the general health of the individual. Certainly there are buboes which heal perfectly without mercury: Hunter, who was a great partizan of the specific metal, admits this; we think, however, that there is more security in employing it in every case. We need not add, that when Dr. Denis makes use of the deuto-chloride of mercury, or the proto-iodide, which he prefers, it is always with the prudent reserve of a practitioner who is thoroughly acquainted with the medicine that he prescribes. The dose varies from an eighth to a quarter of a grain daily, and seldom amounts to half a grain. In females, it is most frequently limited to one-eighth.

The fault of the doctrine which proscribes this specific is in speaking as if the world had not profited by the experience of fifty years. At this day, no person abuses mercury. Why should any one be so obstinate as not to perceive it, and what is this strange mania of making war, like some famous knight-errant, upon excesses that have long been imaginary?

Treatment of the chronic or indolent bubo.—We shall be

brief in what remains to be said, as the task we proposed in the outset is fulfilled. The chronic or indolent bubo is primitive or consecutive. It is in this form that the repeated application of blisters is particularly efficacious. They act by inducing suppuration or resolution of the ganglia. Mercurial or ammoniacal frictions, emollients, douches, long walks, are so many means suitable to resolve indurated ganglia, or to inflame them and bring on suppuration. Compression, combined with vesicatories or irritating frictions, constitutes a mode of treatment by means of which we have seen Dr. Denis obtain the resolution of indolent buboes of considerable size. If the means thus rapidly pointed out do not produce the desired effect, inflammation may be directly excited by an issue of caustic potassa. The ganglia may also be excised, which is preferable, in imitation of Desruelles, and subsequently cauterized, or leeches may be applied after the excision, which ought to be tried first. Here again punctures are attended with beneficial results. "It is," says Aubry, "in cases of indurated chronic buboes particularly, that Cullerier advises the ganglion to be pierced deeply; this charge is important, and its omission may compromise the success of the method." It is sometimes necessary, in cases of this kind, to repeat the punctures. In this matter, we should be guided by the progress of the disease. Aubry cites three examples of very large buboes cured at the end of a month. It is probable that, from analogy, the multiple punctures will shortly be applied to scrofulous tumors.

Buboes are susceptible of several complications. A phlegmonous erysipelas may occur after the application of leeches. The surgeon now and then meets with individuals of a scrofulous constitution, in whom cicatrization proceeds with extreme slowness. Some buboes are accompanied with an ulceration truly phagedenic, a terrible symptom with which we saw a young soldier die at Val-de-Grâce, although he had been subjected to simple treatment. Finally, intercurrent diseases exert a great influence on the progress of the bubo. But these various complications do not enter into the plan we have traced out for ourselves.

ART. II.—*History of a case of Abdominal disease.* By WM. L. SUTTON, M. D., of Georgetown Ky.

Jacob Caplinger, aged 54, applied to me April 14th, 1838, to see if I could afford him any relief for a colic to which he was subject; and gave the following history of himself. He has been in bad health for several years, and is usually troubled with a costive state of the bowels. For the last year or two, he has had a tumor of considerable size in the left side of the abdomen. It commenced nearly equidistant between the navel and the short ribs; after remaining for some time, it disappeared from that place, and one was found in the left iliac region. At present it extends from the short ribs to near the pubis, where it terminates in an obtuse point, projecting to the median line. Just below the ribs is a point where there is an indistinct sense of fluctuation; bowels at present regular, but very subject to colic.

I did not see him again until the 20th of May, when he informed me that he had remained pretty much as when I saw him, until the 18th inst., when he was seized, at night, with considerable nausea and retching but no vomiting: he also belched up a considerable quantity of air. Soon after he fell asleep and enjoyed a tolerable night's rest, which he had not done for some time. The next morning he found the tumor had disappeared. Upon examination, I found the tongue tolerably clean, forward; but with a slimy fur towards the root; appetite indifferent, bowels very loose, dejections rhubarb-colored and very fœtid, urine high-colored, rather scanty and occasionally voided with great pain—respiration not oppressed—some cough—can sleep in a horizontal posture, which he had not been able to do for some time before the subsidence of the tumor; skin sallow and countenance indicative of suffering; abdomen somewhat distended and evidently containing a fluid; no appearance of the tumor, but, by pressing with some firmness in the left lumbar region, the edge of a solid body was evident, about two inches long; at this point

there was considerable tenderness as well as over the abdomen generally; lancinating pains in the right hypochondrium; pulse not deranged. He had travelled about forty miles in a carriage on that day, which he bore badly.

From the 23d to the 27th he passed not a drop of urine, neither did he have the least inclination to do so; and, although there was no fulness in the region of the pubis, still to leave no room for doubt, on the 25th, at night, a catheter was introduced, but no fluid followed. During this time his bowels were getting into a better condition, both as to quality and quantity of the discharges. The skin was becoming of a better hue, the abdomen was diminishing in fulness; the tumor in the lumbar region increasing distinctly in size. The pulse continued about 65, and was of good volume; respiration easy: some cough, and expectoration of a little dirty looking mucus. On 27th he passed urine in a moderate quantity, apparently containing albumen, which continued in a fair quantity.

June 7th. Since the last report the abdominal tumor continued to increase in size until it extended from under the ribs considerably into the iliac region, where it terminated in a rounded point, very much as it did when I first examined it: laterally, it projected considerably beyond the navel, the surface presenting a lobulated character. The tumor was not very painful on pressure; but there was some tenderness in the epigastrium, and in the right hypochondriac region. Upon examining the abdomen on the 7th, the tumor had lost about three fourths of its size since the preceding day, with an increase of fluid in the abdomen. The intestinal evacuations were of a good color and consistence, but offensive in odor; urine natural in color and apparently containing albumen; pulse ranging from 65 to 70; respiration natural; sleeps well. June 29th. Had continued to improve until three days ago. His complexion had cleared up; pulse good, with an occasional intermission; bowels in good order, except that the dejections were offensive; appetite fair, and sleep in general comfortable. Three days ago he had a chill, which was

said to have lasted two hours, after which there was some heat of the head and chest, with coolness of the hands and feet. Complexion became tawny, with an anxious expression of countenance; abdomen painful, and the next morning could not be moved without great pain, whereas he had sat up and walked about the house the best part of the previous day.—The bowels became loose; dejections light-colored and still more offensive. At present the equilibrium of the circulation is pretty well re-established; pain relieved, and sleep restored; but the bowels still deranged.

July 6th. Bowels have acted better; but the dejections still fœtid, and occasionally mixed with blood, (which comes from the lower part of the bowel,) and have been of proper color. Urine natural in color and quantity, without sediment. There is frequently considerable pain in the region of the bladder, on passing urine or fæces. At times complains of coldness of the right foot and leg. Pulse generally about 65, with an occasional intermission.

9th. The tumor for some days has had a very equivocal appearance. Lying in the track of the colon, its irregularities bear considerable resemblance to that bowel enormously distended: opposite the anterior superior spinous process of the ilium, it extends two-thirds of the way to the median line.

30th. Had continued to improve until a few days ago; his appetite was regular; digestion good; little eructation; fæces of good consistence, but still of an unnatural odor; skin rather dry; urine scanty; pulse 75 and pretty regular. Of late the tumor has increased in size and been more painful. The upper portion of the tumor extends across the epigastrium, and is uniform and hard; the lower portion reaches to the median line, and is uneven on its surface and softer, as if containing a fluid. Between these two portions is a depression. Lately, there has been an increase of fluid in the abdomen; also œdema of the feet. Yesterday, he was taken with an excruciating pain in the abdomen generally, and especially in the epigastrium, which was very tender to the touch, with inability to lie down for any length of time. [This inability to lie was

occasioned by that posture causing great pain, and not by its oppressing respiration, which was then, and has been unaffected by position.] Lips blueish, and countenance expressive of great agony, yet the pulse continued firm. He had several discharges from his bowels, more soft and bilious than usual.

August 7th. There is less tenderness of the abdomen, yet there is considerable flatulence and pain in the bowels, just before the expulsion of the contents of the bladder or rectum; at the same time there is considerable pain in the glans penis. The upper portion of the abdomen is tympanitic, but the air is presumed to be in the stomach and bowels, as there is considerable eructation. The lower portion of the abdomen evidently contains a fluid. Pulse less intermittent, also less uniform in strength; skin somewhat clammy. The tumor not perceptible, except in the lumbar region, where it is of the size of a small fist.

15th. The tumor now occupies the iliac fossa, extending up as high as the ribs, which permit it to be followed by the hand, and across the epigastrium: there is a fissure between the upper and lower portion, the superior being smooth and the inferior lobulated, as on several occasions heretofore. Abdomen at present contains little fluid. Pressure on the back part of the lumbar region gives considerable pain, which is also felt in the shoulder. Bowels for a few days have been disposed to diarrhœa.

From this time until the 29th, on which day he died, he gradually sunk; the bowels being irregular, occasionally disposed to constipation, then to diarrhœa, attended with much pain in defecation; pulse fluctuating but never very frequent.

Treatment.— On the 20th of May when I commenced treating the case, my first effort was to bring the bowels into a tolerable condition. This was attempted by a mercurial cathartic, followed by calomel, ipecacuanha and opium in small doses, thrice a day. Under this course there was a gradual, but a very decided improvement, and, with the exception of short intervals towards the latter period of the

disease, his bowels were in a very tolerble order, as to the quantity, consistence, and color of the discharges, which, however, always had an unnatural and offensive odor. For the suppression of urine, which lasted from the 23d to the 27th of May, various diuretics were tried, such as bals. copaib. and Venice turpentine, spts. nitr. dulc., and tr. canthar, &c., without any apparent effect. The secretion appeared to be re-instated by a blister over the kidneys. After this, and indeed, from the beginning, the treatment was varied to mitigate unpleasant symptoms, believing as I did, that the abdominal tumor was of the encysted kind and of course not to be reached by medical treatment.

The aggravation of symptoms which took place on the 29th of July, was caused by, or at least supervened very speedily upon, a brisk breeze accompanied by a heavy shower of rain, followed by a considerable fall of the thermometer, which had stood at 90.° He was at the time sitting between two doors, but he said there was not much of a current of air on him.

The following was my diagnosis, exhibited at the opening of the body, which was done in the presence of Drs. Barlow and Adams. "Abdomen containing a moderate quantity of turbid serum; the convolutions of the bowels attached by membranous adhesions; an encysted tumor occupying the left iliac, lumbar, and hypocondriac regions, pressing on the bladder and kidney; left lobe of the liver probably enlarged; mucous coat of intestines inflamed, perhaps exhibiting cicatrices of former minute ulcerations; kidneys diseased, perhaps, having a white deposite."

Autopsy.—Emaciation extreme; abdomen not prominent; omentum well down over the bowels, and adherent to them throughout, as also to the peritoneum; it and the bowels uniformly dark; bowels very much agglutinated by membranous adhesions; abdomen contained from three quarts to a gallon of fluid, of the color of Port wine, which was confined in the lower region of the cavity, and below the bowels, by the adhesion of the omentum to the peritoneum and to the bowels,

and by the intimate attachment of the convolutions of the intestines to each other; the bowels themselves of good calibre and empty. Occupying the upper part of the iliac region, and a considerable part of the lumbar region, was a tumor of the size of a child's head; in front, of cerebral consistence and color, while further back it was firm, but of the same hue. This tumor had a cyst in it, containing about a pint of fluid, in every respect like that contained in the cavity of the abdomen; its substance was the left kidney thus enormously enlarged and disorganized. Attached to the kidney, and apparently continuous with it, were one large and several small cysts, altogether containing about three pints of fluid. The large one held about a quart of fluid like that in the abdomen, mixed with considerable quantities of a substance resembling half putrid flesh. This mass extended from the pelvis to the diaphragm. The right kidney was rather pale and flaccid; the stomach contracted and apparently healthy; liver rather yellowish in color, of good size and appearance; spleen healthy.

REMARKS.

I have been induced to give the foregoing free, and I fear, tedious extracts, from my memoranda of the case, because it is universally confessed that there is great difficulty in forming a correct judgment of the nature and seat of abdominal tumors; and because in these, as in other matters in our profession, the surest way to form a correct opinion is, to attend to and record the symptoms during life, and then by examination after death, ascertain the state of the parts. In this way, we can form a much better judgment of the correctness of our views and of the fitness of our treatment; we shall occasionally also be enabled to detect a cause of erroneous diagnosis.

The first interesting feature which I shall notice is the disappearance of the tumor on the 18th May, and its diminution at different times afterwards, followed by an increase of fluid

in the abdomen, or rather its appearance there on the day above mentioned, for, upon my stating to him on the 20th that there was a quantity of water in the abdomen, he told me that a very respectable physician of Shelbyville, who had examined him on the 10th, (a few hours before he was attacked with nausea, &c.) told him explicitly that he had no fluid in the abdomen; and when I saw him in April, I certainly did not suspect him of being dropsical. Then this subsidence of the tumor and the effusion into the abdomen were clearly owing to a rupture of the walls of the sac. The sac was a thick, strong membrane, and after maceration in alcohol, exhibited a spot on the inner surface where there was an appearance of rupture, the inner layer being altogether shrunk to the size of a quarter of a dollar. Was the occurrence of nausea, retching, &c. on the night of 18th of May, the effect or cause of the discharge of fluid into the abdomen? or was it only a coincidence? Upon these points the patient could give no information, and every thing is left to conjecture. But the probability is, that it was only a coincidence, as no nausea, &c. attended the diminution which took place on the 7th June, and at other times, when I have little doubt that rupture of the sac took place.

2d. A total suppression of urine existed for four days, without his appearing to suffer any inconvenience. Not the least uneasiness or oppression of the brain.

3d. During this total suppression of urine, and whilst the intestinal evacuations were daily becoming less frequent, smaller, and more consistent, there was an evident diminution of the fluid in the abdomen, and that without any perceptible perspiration.

4th. The great pain, which was frequently felt upon discharging the contents of the bowels or bladder, most probably depended upon the tumor pressing on the parts concerned.

5th. The irregular knobbed-appearance which the tumor assumed towards the last, made me hesitate whether I had not mistaken the nature of the case, or at least whether there was not a vast accumulation of fæces in the sigmoid flexure

of the colon as well as higher up. It was only by reflecting that no scybala were passed, and that there was a decided diminution of the tumor without any increased discharge from the bowels, that cleared away these doubts.

6th. The post-mortem examination very satisfactorily explained why the upper portion of the abdomen was tympanitic and the lower dropsical, inasmuch as the fluid was confined in the lower portion by a very complete adhesion of the omentum to the peritoneum, and to the convolutions of the intestines, aided by adhesions among the latter.

7th. It is worthy of remark, that the sac, distended with fluid, on several occasions, presented more resistance than the encephaloid mass. At one time at least, if I had attempted to draw off the fluid by puncture, I should have plunged the trocar into the soft tumor, and not into the sac.

And lastly, we may remark the speedy growth of the tumor. On the 20th May it was scarcely if at all perceptible, and on 29th August it was as large as a child's head.

It will be observed that no mention is made of the condition of the mucous coat of the intestines. The color of the bowels externally was so dark, that we were under the impression at the time, that gangrene had progressed too far to admit of their being satisfactorily examined. I soon after changed my opinion, and thought that the color of the bowels was imparted by the fluid which was in the abdomen, and I therefore very much regret the omission.

It is probable that the agglutination of the peritoneum, the omentum, and the convolutions of the bowels, was the consequence of inflammation produced on the 29th July, by the sudden change of weather. After that time the fluctuation was confined to the lower portion of the abdomen, whereas before, when there was a quantity of fluid in the abdomen, fluctuation was general.

October, 1840.

ART. III.—*Observations on the Bloody Murrain of Cattle.* By JOHN WINANS, M. D., of Green County, Ohio.

From the formidable mortality occasioned by this disease among the cattle of this region, it has lately become a subject of interest. Formerly nobody paid much attention to it, except those who suffered from its influence. Now, however, the attention of the medical and agricultural community has become awakened to the importance of trying to discover the cause, that they may be enabled to prevent it, and thus save from destruction a vast amount of property.

What number of our cattle die from this disease, I am unable from any data in my possession to determine. Judging however from some observations in a section of the country devoted entirely to the raising of stock, I should say that the mortality annually is one in every twenty-five. Some seasons it is much greater. One man in our neighborhood, who generally keeps about one hundred head on hand, says that in one season he lost twenty-five.

Cattle of all ages do not seem equally liable to the disease. Sucking-calves do not have it at all; and it has seldom been observed in animals under one year old.

All observers agree that it seldom, if ever, occurs in animals that are *lean*. Its attacks are confined exclusively to cattle in good order, and fat cattle. So universally is this the case, that fatness is considered by some as a predisposing cause—by some as an indispensable condition of the system.

No period of the year is exempt from the disease, though its greatest ravages are made in the fall months. Males and females seem equally liable to it.

Symptoms.—Loss of appetite is generally the first manifestation of ill health. This is soon followed by thirst, and a contracted appearance of the whole body. This however may be common to it and other disorders. But infallibly manifesting the presence of the disease, are the *discharges of blood from the fæcal and urinary passages.* Often but little, and

sometimes no blood makes its appearance in the dejections from the bowels. The urinary organs on the contrary keep up a perpetual discharge of blood and urine, amounting sometimes to three or four gallons in twenty-four hours.

Prognosis.—This is universally bad. Few if any cases are known to have recovered after the disease had got complete possession of the system. Copious discharges of blood from the bladder are always regarded as fatal; for farmers, when they discover this, seldom make a remedial effort, but abandon the animal to its fate.

Cause.—Of the predisposing or exciting causes, nothing is certainly known. The proximate cause or pathology of the disease itself is, I think, now known, and consists in *inflammation of the kidneys,* which, if not arrested, terminates in *gangrene and death.* With a number of causes assigned for this disease by stock-growers, among the most popular of which was that of leeches (*flukes*) in the liver, I lately went to work and made a post-mortem examination of an animal that had died of a well-marked case of the disease.

The animal, a cow, four years old, and in fine order, was discovered to be unwell about a week previous to her death. The day before she died she discharged a quantity of blood from the anus and bladder—most copious from the latter.

On opening the thorax the right lung was discovered to be in a slightly inflamed condition. The thorax contained half a pint or more of blood and water.

Attention was next directed to the liver, where I expected to find leeches, (*flukes.*) Examining this organ carefully, I could discover none, nor any traces of primary disease. In the adipose matter surrounding the kidney I noticed a red discoloration denoting previous inflammation. Removing the upper portion developed it more intensely; and on exposing the right kidney it was found to be in a complete state of mortification, incapable of sustaining its own weight. The left was similarly affected though not so much softened and disorganized. The color of both was black, though the right was much the most so.

The bowels in the vicinity of the kidneys were much more inflamed than any where else, and that portion passing over the right kidney and terminating in the rectum, had its mucous surface inflamed, and it contained a quantity of the coloring matter of the blood in the form of paste.

The other organs of both abdomen and chest, appeared to have suffered from nothing but sympathy and juxtaposition. Externally there were some spots of ecchymosis, and the peritoneum had evidently suffered considerable inflammation.

The bladder contained half a gallon of fluid blood, which did not coagulate on cooling, and the mucous surface of the organ was inflamed.

The contents of the large and small intestines were but little altered from the natural healthy appearance, except that portion of them extending from the kidneys to the anus, which contained, as stated above, a quantity of the coloring matter of the blood of the consistence of paste.

Treatment.—According to these pathological views, the treatment of the disease should consist in *blood-letting*, and other antiphlogistic means.

October, 1840.

REVIEWS.

ART. IV.—*Statistical Researches relative to the Etiology of Pulmonary and Rheumatic Diseases, illustrating the application of the Laws of Climate to the Science of Medicine; based on the records of the Medical Department of the Adjutant General's office.* By SAMUEL FORRY, M. D., Medical Staff of the U. S. Army, &c. 1840, pp. 44.

The confederated colonies and the United States together, have had an army and a medical staff, for more than 60 years; and the officers of that staff have been stationed in almost every part of our widely extended country, from Passammaquoddy Bay to the Balize, from Jamestown to the Chippewa mountains, from Mackinas to Cape Florida. Thus dispersed, and generally surrounded by new objects, no other portion of the American profession have had opportunities equal to theirs for making new and interesting observations, on the influence of climatic and topographical peculiarities, on the constitutions, of at least one class of society—adult males. It must be confessed, however, that the aggregate of what they have contributed, is by no means worthy of them. For a long time pleasure and dissipation absorbed the time and attention of too many of these gentlemen, not less than their brethren of the line. We are happy to know, that for the last 12 or 15 years this dissipation, like that of the profession in civil life, has been steadily going out of fashion; and that

a spirit of professional observation, and habits of scientific inquiry, have, *pari passu*, sprung up. Much of this is, we believe, attributable, not merely to an abatement of army conviviality, but to the establishment at Washington, of the office of a Surgeon General; and the judicious arrangements of Dr. Joseph Lovell, who so long held that important station. Among these, was the order to keep meteorological registers at the different military posts. They were, however, by no means, supplied with all the requisite instruments; and hence but little exact information could be acquired, except on the temperature of those places. Under the direction of the present surgeon General, Dr. Thomas Lawson, these observations, for a period of 10 years, have been collected, arranged and published, under the title of Army Meteorological Register, no copy of which has, however, reached us. This labor was performed by Dr. Forry, and he tells us that after having performed it, he determined on preparing the little work we are now reviewing. It is based upon the tables of that Register, in connexion with the returns, in the Adjutant General's office, of the sick at the corresponding posts, through the long period just mentioned. As the title of the pamphlet before us indicates, our author has limited himself to pulmonary and rheumatic diseases, being those which, beyond all others, seem to depend most immediately on climatic influences. It is our design to make such an analysis of this work, as may be practically useful to our readers.

We have said that all the *exact* meteorological information presented, relates to temperature; nevertheless our author has united with it the element of moisture, although not in possession of any hygrometric tables.

If this continent were destitute of lakes, it might be safely affirmed, that in going from the sea board into the interior its climate would constantly become drier; but with a chain of deep and extended lakes stretching half across it, the humidity of the interior, in their neighborhood, is greatly increased, while at the same time they exert a decisive influence on the

extremes of atmospheric temperature along their margins. Under these views our author has established several general divisions of the United States; and recognized different systems of climate in each, founded on the relative distance from the sea and the lakes. His first general division, the northern, extends from Canada as far south as New York, in which, referring to moisture as well as heat, there are three varieties of climate, that of the New England coast, that near the lakes, and that remote both from them and the sea. The second, or middle division extends from New York to Savannah and westwardly to the Rocky Mountains; which division, being without lakes, has but two varieties of climate —the maritime atlantic, and the interior. The third or southern division, embraces, first, the delta of the Mississippi, with the gulf shore, to Pensacola; and second, the peninsula of East Florida, the whole of which is humid, and, in its temperature, under the influence of the sea.

The extreme range of the thermometer throughout all the systems of climate in the northern general division, are greater than in those further south, and the difference between the *mean* heat of the winter and summer is greater. But the mean summer and winter temperatures, in the same latitudes in this division, vary according to the nearness or remoteness of different places, to the sea and the lakes. Thus, places near the Atlantic and lake coasts, have not only greater humidity, but warmer winters and cooler summers; for the obvious reason, that masses of deep water do not become so hot in summer, nor cold in winter, at the surface, as tracts of continents, because from their agitation they are warmed to a greater depth. Therefore, the extremes of temperature are greater in the interior, between the lakes and the maritime coast and beyond the lakes, than elsewhere in this division.

The modifying influence of the sea coast compared with the region beyond the lakes, is exhibited in the following table. It presents an average of five years, calculated from the

data of two posts in each system of climate, the mean latitude of the posts on the ocean being 43°18', and that of those in the opposite locality, 43°10'.

Locality.	Latitude.	Mean Annual Temperature.	Range of the Thermometer			Winter.			Spring.			Summer.			Autumn.		
						December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.
						33.20	24.18	26.45	34.21	44.76	55.37	63.26	68.96	67.43	59.85	50.42	39.73
						25.07	18.82	21.78	34.20	48.05	64.49	75.04	76.81	73.92	60.85	52.92	37.43
Sea-coast	43°18'	47°.19	98	−24	122	27.94			44.78			66.55			50.00		
Region beyond the Lakes	43°10'	48°.99	104	−30	134	21.89			48.91			75.26			50.40		

In the former, the mean temperature of winter is 6°.05 higher than the latter; that of spring is 4°.13 lower; that of summer is 8°.71 lower; and that of autumn 0°.40 lower. This contrast is more strikingly shown by comparing the difference in the mean temperature of winter and summer, it being on the sea coast 38°.61, and in the opposite locality 53°.37. It is thus apparent, that a classification of climates, having, for its basis mere latitude, is wholly inadmissible; for, although there may be little difference in the mean annual temperature, yet the distribution of heat among the seasons may be extraordinarily unequal.

These facts are still more strikingly illustrated in the following table, which exhibits a comparison between posts on the lakes and those of the same region situated beyond their influence.

Locality.	Latitude.	Mean Annual Temperature.	Range of the Thermometer.			Winter.			Spring.			Summer.			Autumn.		
						December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.
						23.04	16.98	19.85	27.20	39.44	52.56	58.24	67.13	63.51	55.94	47.19	36.33
						18.07	13.74	20-35	31.90	44.81	62.42	71.53	76.49	72.07	58.47	50.81	36.31
Lakes	46°27'	42°.22	93	−26	119	19.96			39.73			62.96			46.49		
Remote from the Lakes	44°53'	46°.47	96	−26	122	17.42			46.38			73.26			48.53		

It thus appears that the winter of the former, notwithstanding it is 1°.46 north of the latter, has a mean temperature 2°.54 higher, whilst that of summer is 10°.40 lower. In the latter, the mean temperature of spring is 6°.65 higher, and that of autumn is 2°.04 higher. The difference of the mean temperature of summer and winter, making due allowance for difference of latitude, is even greater than in the comparison with the Atlantic coast, that of the Lakes being 43°, and that of the opposite locality 55°.84. In the former region, the prevailing weather is cloudy, and in the latter fair; thus, during the year the proportion of days is—

	Fair.	*Cloudy.*	*Rain.*	*Snow.*
Remote from lakes,	216	73	46	29
Lakes,	119	132	67	47

In the next or middle general division, there are, we have already said, but two varieties of climate, the humid of the sea shore, and the more arid of the interior. The whole of the middle zone, that in which we live, is characterized by variability, while its mean heat is greater, and the extremes between summer and winter less than in the preceding.

The third or southern division, is still less variable, its annual heat is greater, the mean difference between summer and winter is less, and the moisture of the climate like the maritime portions of the two preceding divisions is great.

Let us travel back, and traverse these zones from south to north, on two different paths, one extending from Key West, in East Florida, lat. 24° 33', through Savannah to Maine, lat. 43° 18' along the Atlantic coast,—the other, from the same Key, through Cincinnati, Ohio, to Fort Snelling on the upper Mississippi, in lat. 44° 53'. In ascending the former, every degree of latitude sinks the mean annual temperature about a degree and a half, but increases the difference between the mean heat of summer and winter about one degree and four tenths. In ascending the latter, each degree of latitude reduces the annual temperature, rather more, because we acquire an elevation above the level of the sea, and increases the difference between the winter and summer means, more than

two degrees. On both these paths, the occasional variations of temperature become more frequent, sudden and extreme as we advance north, and this, it is *probable*, at a greater ratio in the interior than on the sea-board. Hence it results that the region of the upper Mississippi, possesses a climate of lower mean temperature, and of greater extremes, than that of any other part of the United States, while it is drier than the sea-board or lake-shore, and not perhaps more moist than any other quarter.

From these data we perceive, that an individual who might sojourn on the sea-coast successively from Maine to Florida, would be acted on by a uniform quantity of moisture, but a constantly increasing degree of heat, and a regular decreasing extent and intensity of variation from heat to cold and cold to heat. And that another individual, who might sojourn progressively from Fort Snelling to Key West, would be advancing into a more humid climate, one in which the mean annual heat was increasing at a greater ratio; and the extremes between summer and winter, and perhaps the violence of the occasional variations, diminishing at a greater ratio still than on the sea-board.

Now the object of our author is to ascertain from the sick reports of different military posts, the influence of these modifications of two of the elements of climate, on the respiratory and fibrous organs, in other words, how far they cause or modify pulmonary and rheumatic diseases. He begins with *catarrh*, and presents the results of ten years observations, at forty-five military posts. As the number of troops was very different at different posts, and varied from time to time at each, he has very properly assumed one thousand as the mean strength, and presented the number of cases in comparison with that strength. We extract his table:

· *Ratio of Catarrhal Diseases.*

Divisions.	Systems of Climate.	Latitude.	Diff. between the mean temp. of winter and summer.	Ratio treated per 1000 mean strength. First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Annual result.
North'n.	1st Class. Posts on the coast of N. England,	43° 18'	38°.61	63	49	36	85	233
	2d Class. Posts on N. chain of Lakes, . . .	46° 27'	43°.00	90	62	50	96	300
	3d Class. Posts N. of l. 39°, and remote from the ocean and inland seas, ...	44° 53'	55°.84	175	120	86	169	552
Mid.	1st Class. From Delaware Bay to Savannah, .	37° 02'	32°.99	102	45	23	97	271
	2d Class. South-western Stations, ...	35° 47'	36°.83	122	61	33	78	290
Sou.	1st Class. Posts on lower Mississippi,* . . .	30° 10'	24°.39	92	34	26	60	213
	2d Class. Posts in Peninsula of Florida,	24° 33'	11°.34†	45	21	40	33	143
	Total,			689	395	294	618	

This table, which exhibits the annual and quarterly ratios of each system of climate, and serves to elucidate their relations and sequences, affords a beautiful illustration of the etiology of catarrhal affections as connected with the meteorological laws established. Take, for example, the northern division consisting of the first three classes:—On the New England coast, as the ocean modifies the atmospheric temperature the annual ratio treated per 1000 of mean strength, is as low as 233; on the great lakes, where a similar modifying influence is in operation, it is 300; whilst the third class, characterized by the extreme range of the thermometer, has a ratio as high as 552.

It appears from this table that moisture does not favor the production of catarrh—that the first and third quarters of the calendar year, generate nearly an equal number of cases, the first, however, the most—that either of them produces nearly as many as the intervening two quarters—that the second, comprising April, May, and June, originates fewer, than the succeeding three months, and that the proportion of cases diminishes as we advance from North to South, into climates where the annual temperature is greater, and the extremes between summer and winter less.

*For want of a better arrangement, Augusta Arsenal, Georgia, and Fort Mitchell, Alabama, have been included in this class.

†This result is obtained from the observations made at Key West. At Fort Brooke, Tampa Bay, it is 16°.02.

From the similarity, or, we should rather say, identity, of catarrh and bronchitis, the results here given are strictly applicable to the latter; and to what, in common parlance, is called broncial consumption. From these affections our author proceeds, to those of the serous membrane and parenchyma of the lungs. The following is his tabular view:

Ratio of Pleuritis and Pneumonia.

Divisions.	Systems of Climates.	Ratio treated per 1000 of mean strength.				
		First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Annual Results.
North'n.	1st Class. Posts on the coast of New England,	12	11	8	10	41
	2d Class. Posts on Northern chain of Lakes,	11	15	13	11	49
	3d Class. Posts on north of lat. 39°, and remote from the ocean and inland seas,	14	11	7	12	45
Sou. Mid.	1st Class. Coast from Delaware Bay to Savannah,	21	11	8	16	57
	2d Class. South-western Stations,	46	18	10	20	92
Southern.	1st Class. Posts on the lower Mississippi,	20	9	4	11	47
	2d Class. Posts in the Peninsula of East Florida,	14	9	8	6	39
	Total,	138	84	58	86	

It appears from this table, *first*, that the number of cases of catarrh and bronchitis is more than five times as great (5.42 to 1.00) as the number of cases of pleurisy and pneumonia: *second*, that the fourth quarter of the year, which produces nearly as many cases of the former diseases as the first, scarcely produces more of the latter, than the second and third; but that the first originates an extraordinary number. In the table on catarrh, the proportion of cases in the first to the fourth, is 689 to 618. In the table on pleurisy and pneumonia the numbers are 138 to 86. Taking the two together, the proportion of cases of these different affections generated in the first quarter, compared with the fourth, is as 827 to 704 —from which it is clearly manifest that the change from cold to warm weather, or the vicissitudes of spring, are more productive of pulmonary inflammation, than those of autumn, or the transition from hot to cold weather, which we think is contrary to the common opinion; and seems to show that cold generates a phlogistic diathesis. *Third*, these tables show

that pleurisy and pneumonia, unlike catarrh and bronchitis, are not more common in the interior than on the seaboard and lake shore. Thus if we add together the cases which occurred in the north general division, at the posts, upon the two former, they make 90, while those which occurred at the posts beyond the lakes made 45—just half the number. *Fourth*, it is singular that on the lake shores, the second and third, or the hot quarters of the year, are more given to pleurisy and pneumonia than the first and fourth, in the proportion of 28 to 22, while catarrh is more frequent in the latter than the former, in the proportion of 186 to 112. *Fifth*, these tables show us, that while long continued cold and great contrast of the seasons, predispose, relatively, more to bronchial affections, long continued heat predisposes, relatively, more to pleurisy and pneumonia. Thus while the proportional number of cases of the former compared with the latter, on the posts of the upper Mississippi, is as 552 to 45—the proportional number, at the posts on the Arkansas and Red River, is but as 290 to 92; and when we compare New England with East Florida, a similar result is obtained, for in the former, catarrh and bronchitis stand to pleurisy and pneumonia, as 233 to 41; but in the latter, only as 143 to 39; and while the posts on the lower Mississippi and gulph coast, are less subject to catarrh, than the shores of the lakes, they are almost as liable to pleurisy and pneumonia. Why long continued heat should abridge the liability to mucous inflammation, at a greater ratio than that to serous and parenchymatous inflammation, we do not pretend to know. We may doubt, however, whether these returns possess very great exactness. The word pneumonia, often expresses nothing more definite than the phrase inflammation of the lungs. An inflammation of the bronchial membrane, generally spreads into the adjoining cellular tissue, and *vice versa*. In many cases the signs of both affections are present; in others the diagnostic symptoms of neither are made out; the inquiries of the physician going no farther, than to determine the existence of pulmonary inflammation; which may be bronchitis or pneumonia, or both combined.

Dismissing these affections we come to phthisis; and here again we may doubt whether the cases reported under that head, are all tuburcular, as chronic bronchitis, pleurisy, and pneumonia, so often simulate that specific malady. We extract the tabular view:

Ratio of Phthisis Pulmonalis.

Divisions.	Systems of Climate.	Ratio treated per 1000 of mean strength.				
		First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Annual Results.
Nor'n.	1st Class. Posts on the coast of New England,	2	3	2	3	9*
	2d Class. Posts on Northern chain of Lakes,	3	2	2	2	9
	3d Class. Posts north of lat. 39°, and remote from the ocean and inland seas,	2	1	1	1	5
Mid.	1st Class. Coast from Delaware Bay to Savannah,	4	5	2	3	13
	2d Class. South-western stations,	3	3	4	2	11
Sou.	1st Class. Posts on the lower Mississippi,	3	3	2	2	9
	2d Class. Posts in the Peninsula of East Florida.	2	2	2	2	9
	Total,	19	19	15	15	

The *first* remark we make on this table is, that the influence of the seasons is less perceptible, than in the other pulmonary affections, and that the former half of the calendar year occasions a greater number than the latter. The *next* is, that the region beyond the lakes, where the cold is greatest, the contrast of the seasons most violent, and catarrh most prevalent, phthisis is rarest. The *third*, that this disease prevails, relatively, most in the middle grand division, between the latitudes of 31° and 39°. The *fourth*, that on the whole it appears to be more frequent near the water than remote from it. The *fifth*, that it is as frequent in the south as the north—on the peninsula of East Florida, as on the coast of New England, or the Lakes. Results so different from our preconceived opinions might astonish us, if we did not remember, that these observations were made on troops which have been largely recruited in the north, and transported to

*As fractions are not given, and as the mean strength of each quarter varies, the annual results do not always correspond with the total of the quaterly ratios.

the south, taking with them a predisposition to the disease; but while we recognize this fact in favor of southern climates, we cannot shut our eyes to another, which is, that going to the south when predisposed to consumption does not, of course, avert the development of the malady. Our author is even of opinion, that the febrile diseases of the south tend to develope tubercle. This is doubtless the case in those, who go from the north, predisposed to that heterologous secretion; but facts are wanting to show that malaria, or the acute diseases arising from it, can generate a tubercular diathesis.

The work before us presents a tabular view of the relative mortality, from different pulmonary affections, in the great climatic divisions, which we shall pass over, as their mode of termination is so much modified by the treatment, which, not being given, is not before us. On the whole we may, however, admit with our author, that these diseases, when they do occur, are more complicated and fatal in the south than in the north; and that many persons laboring under chronic pulmonary affections, have their lives shortened, by attempting a *permanent* residence in a hot climate. Their constitutions are enfeebled by the long continued action of a hot atmosphere, laden with miasmata, to neither of which had they been accustomed. But, in which of the different forms of pulmonary disease, is a sojourn in the south most beneficial? If we may judge by the foregoing table, in the bronchial—in catarrhal consumption or chronic bronchitis. For, compared with pleurisy, pneumonia and phthisis, catarrh is less frequent in the south than in the north. He then, and he only, who has a bronchial or laryngeal consumption, should expect to be cured by going to the south; and even he should not remain there in the summer, but seek a cooler climate, and a purer air. Aged persons who are liable to winter coughs, with dyspnœa, stricture and copious expectoration, would be particularly benefitted by escaping from the north in October, and not returning till May.

But where within the United States should they go? May they stop in South Carolina, Georgia, Alabama, Mississippi or

Louisiana? We think not. The vicissitudes in winter are too great; the depression of temperature for short periods often too low; the number of cold rains too many; the domestic means of protection against a damp and chill atmosphere too few and incompetent, to render a winter sojourn within the limits of those states, efficient, as a means of cure. We admit that in reference to climate only, *something* may be gained, by those laboring under bronchial affections, but in numerous cases it is fully counteracted, by sinister influences, from which the patient would be exempt if he had remained at home.

It is only on the peninsula of East Florida, far south, in the latitude of 26° or 24°, that a climate is found of sufficient elevation and constancy of temperature, to exert a really curative influence. Whatever may be the humidity of the air in that latitude, it is always mild. There is, indeed, but little difference between summer and winter. Sudden and violent changes of temperature are unknown, and the atmosphere is always soft and balmy. But in reference to the fitness of this climate for invalids we must let our author speak for himself.

In treating of the climate of Florida, the primary object held in view is, to direct attention to its fitness as a *winter* residence for northern invalids. In 1833, Professor Dunglison called the attention of the profession, on the strength of the meteorological registers kept by the medical staff of the army, to the suitableness of St. Augustine and Tampa Bay as a winter retreat. An examination of abstract No. 2, of Appendix, showing—1. The mean temperature of each month, each season, and the whole year; 2. The difference between the mean temperature of each month and season; and 3. The annual and monthly ranges of temperature—will, it is believed, not only furnish further confirmation of the doctrines already conclusively established, but lead to results of great value to the practical physician.

The results of the four posts in abstract No. 2 of Appendix, illustrate the modifying agency of large bodies of water. Fort King, situated in the interior, has a warmer summer and a colder winter than the remaining stations, all of

which are on the coast. Athough Key West is 4°39′ south of Fort King, and has a mean temperature of 3°.43 higher, yet the mean summer temperature is 2°.81 lower. The equalizing influence of the ocean is still further shown by the annual range of the thermometer, the mean of the monthly ranges, and the mean difference of successive seasons. During the summer months, the morning and evening observations are nearly the same at both points, the disparity being caused by the exalted temperature of Fort King at mid-day. In each year, July was the hottest month at Key West, and the month of June at Fort King. As is usual in southern latitudes, there is little variation presented at Key West in the mean temperature of the same month in different years.

There is little difference between the thermometrical phenomena presented at Key West and the Havanna. Within the period of six years, (from 1830 to 1835 inclusive,) the mercury at Key West was never known to rise higher than 90°, nor sink lower than 44°.

The peculiar character of the climate of Florida, as distinguished from that of more northern latitudes, consists less in the mean annual temperature than in the manner of its distribution throughout the year. At Fort Snelling, Iowa, the mean temperature of winter is 17° 29, and of summer, 72°.80, whilst at Fort Brooke, Tampa Bay, the former is 65°.02, and the latter 81°.04 and at Key West, 70° 05 and 81°.39. Notwithstanding the winter at Fort Snelling is 52.76 colder than at Key West, the summer, at the latter is only 8°.59 warmer. In like manner, although the mean annual temperature of Petite Coquille, La., is nearly 2° lower —that of Augusta Arsenal, Ga., nearly 8°—and that of Fort Gibson, Arkansas, upwards of 10° lower than that of Fort Brooke; yet at all, the mean summer temperature is higher. Between Fort Snelling on the one hand, and Fort Brooke and Key West on the other, the relative distribution of temperature stands thus:—Difference of the mean temperature of summer and winter at the former 55°.51, and at the two latter 16°.02 and 11°.34; difference of the mean temperature of the warmest and coldest month, 61°.18 compared with 17°.68 and 14°.66; and the mean difference of successive months stands as 16°.20 to 2°.97 and 2°44. At Fort Snelling, the annual range of the thermometer is 116°, and at Fort Brooke and Key West it is 56° and 37°; and the mean of the monthly ranges bears the relation of 50° to 29° and 16°. The attention is thus directed merely to a few prominent points, as a reference to the tabular abstract will enable any one to

trace much farther this remarkable equality in the distribution of temperature among the seasons in Florida. A comparison with the most favoured situations on the continent of Europe, and the islands held in the highest estimation for mildness and equability of climate, affords results no way disparaging. A comparison of the mean temperature of winter and summer, that of the warmest and coldest months and that of successive months and seasons, furnishes results generally in favour of the peninsula of Florida. The mean difference of successive months stands thus:—Pisa 5°.75, Naples 5°.08, Nice 4°.74, Rome 4°.39, Fort King 4°.28, Fort Marion, at St. Augustine, 3°.55, Penzance, England, 3°.05, Fort Brooke, 2°.97, Key West 2.44 Madeira 2°.41. The mean annual range thus:—Fort King 78°, Naples 64°, Rome 62°, Nice 60°, Montpellier, 59°, St. Augustine 59°, Fort Brooke 56°, Penzance 49°, Key West 37°, and Madeira 23°.* The island of Madeira is esteemed by Dr. Clark as best adapted to consumptive patients.

In the West India islands the mean annual temperature near the sea is only about 80. At Barbadoes, the mean temperature of the season is—winter 76°, spring 79°, summer 81°, and autumn 80°. The temperature is remarkably uniform; for the mean annual range of the thermometer, even in the most variable of the islands, is only 13°, and in some it is not more than 4°.† Contrast this with Fort Snelling, Iowa, which gives a range of 116!

It has been seen that the meteorological agents which determine the ratio of pulmonic lesions, causing the first and fourth quarters to present the highest averages, and the third the lowest, is the marked distinction of season characterized by extremes of temperature. Hence the apparent exception to this rule in the system of climate pertaining to East Florida, where the third quarter has a higher ratio than the second or fourth, (see Table p. 21,) instead of contradicting a general law, corroborates it. As Florida is an ever-green land, the influence of the seasons does not impress the pulmonary organs sufficiently to derange their functions by their transition. Hence the ratio of pulmonic lesions is low; and as the causes which are secondary in excessive climates, grow here into primary ones, these diseases may be as rife in the summer as in the spring or autumn.

*Contrary to the numerical ratios furnished in his tables, Dr. Clark says that "the mean annual range of temperature is only 14°"—an error which has crept into the writings of Dr. Dunglison.

†According to the British army statistics.

The state of the weather as indicated by the course of the winds and the proportion of fair and cloudy days, calculated for the same years as abstract No. 2 of Appendix, is shown in the following table:—

Places of Observation.	Course of Winds.								Prevailing.	Weather.			Prevailing.
	N.	N.W.	N. E.	E.	S. E.	S.	S. W.	W.		Fair.	Cloudy.	Rain.	
	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.		Days.	Days.	Days.	
St. Augustine,	1.55	2.86	9.08	1.03	10.83	1.11	2.64	1.33	S. E.	19.02	5.19	6.22	Fair.
Fort King,	1.62	2.79	3.46	3.54	4.37	5.63	5.96	3.08	S.W.	25.75	2.88	1.89	Fair.
Fort Brooke,	1.53	3.72	5.58	2.89	4.44	2.75	6.42	3.17	S.W.	20.33	4.47	5.64	Fair.
Key West,	3.20	3.13	10.50	5.37	5.37	0.54	1.67	0.38	N. E.	21.54	3.08	5.92	Fair.

The want of hygrometrical observations to indicate the actual or comparative humidity of the atmosphere is to be regretted. That the air is much more humid than in our more northern regions is sufficiently cognizable to the senses. The dews, even in the winter, are generally very heavy. To guard against the oxidation of metals, as for example surgical instruments, is a matter of extreme difficulty. During the summer, books become covered with mould, and keys rust in one's pocket. *Fungi* flourish luxuriantly. The writer has known a substance of this kind to spring up in one night, and so incorporate itself with the tissue of a woolen garment as to render separation impracticable. As general relaxation and lassitude are consequent on this prevailing humidity, it may exercise some agency in the production of the comparatively high ratio of pulmonic and rheumatic affections in the summer season. One of the best safeguards against its effects is, to wear flannel next the skin—a custom generally adopted in the army. It is, indeed, a hygienic measure no less valuable in warm than in cold climates, affording comparative immunity against thermometrical and hygrometrical vicissitudes.

As the rains, however, generally fall at a particular season, so the atmosphere in winter is comparatively dry and serene. The following abstract of the monthly fall of rain at Key West, is the mean result of five years observation:—

Jan.	*Feb.*	*March.*	*April.*	*May.*	*June.*	*July.*	*Aug.*	*Sep.*	*Oct.*	*Nov.*	*Dec.*	*Annual average.*
1.82	1.34	1.98	1.09	6.34	2.39	2.84	3.30	4.35	3.33	1.49	1.13	31.40

It will be observed that during six months, from November

to May, which is the longest period that a northern invalid should remain in this climate, the proportion of rain is but 8·84 inches. It has been already remarked that in tropical climates a portion of the year is known as the rainy season, and that the same quantity descends in a much shorter space of time than in the temperate zone; and that consequently the proportion of fair days and clear skies is infinitely in favour of the former. In the table of the weather just given, in which the ratios are monthly averages, this result is strikingly manifested. At Fort King, the annual number of fair days is 309, whilst on the northern lakes, it is only 119. On the coast of Florida, however, the average is not more than 250 days.

The influence of temperature on the living body is often indicated more accurately by our sensations than the thermometer. The advantages of climate as regards its fitness for the pulmonic, not unfrequently depend on the mere circumstance of exposure to, or shelter from cold winds. The frequency and severity of the winds at St. Augustine constitute a considerable drawback on the benefits of the climate. The chilly northeast blast, surcharged with fogs and saline vapours, sweeping around every angle of its ancient and dilapidated walls, often forbids the valetudinarian venturing from his domicil. To obviate these disadvantages, a large house was erected at Picolata on the St. John's; but during the pending Indian disturbances, it has been converted into a barrack and an hospital.

To persons labouring under an irritable state of the bronchial membrane, high winds are particularly injurious. If the consumptive invalid have much sensibility to harsh and keen winds, and if the immediate vicinity of the sea be known to disagree, Fort King ought to be recommended before St. Augustine or even Fort Brooke; but as sea-air is known to be generally adapted to a relaxed habit and a languid and oppressed circulation, a favorable position on the coast should, in such cases, be selected as a winter residence.

The natural advantages of position, without reference to extrinsic circumstances are now under discussion. St. Augustine is on the eastern coast; Fort Brooke is at the head of Tampa Bay,* about 30 miles from the Gulf of Mexico; Fort King is intermediate to these two points; and Key West belongs to the Archipelago south of Cape Sable. The pending

*The old Spanish appellation was Espiritu Santo, or bay of the Holy Ghost, the name Tampa being then restricted to an arm.

hostilities with the Aboriginies, and the difficulty of obtaining accommodations indispensable to the comfort of the invalid, render a winter retreat almost impracticable any where but at St. Augustine or Key West. The oldest town in the United States, and built mostly of a concrete shelly stone in the Spanish style, St. Augustine presents an antiquated appearance, enlivened by beautiful orange-groves bending at due season beneath their golden fruit.* The old Spanish fort and the *tout ensemble* of the city, give it more the resemblance of a place of defence than of elegance; but it is these circumstances which associate it with history, and render it peculiarly interesting to the American traveller. Moreover, the inhabitants extend kindness and hospitality towards strangers. Key West, about 60 miles southwest of Cape Sable, is two miles wide and ten long, and is remarkable as being the most southern settlement in the United States. Possessing a good harbor, it has been from time to time the station of our West India squadron. It contains about 1400 souls, and is a place of commerce chiefly in the way of wrecked goods.

In contemplating the scenery of East Florida in the month of January, one is apt to forget that it is a winter landscape. Fort Brooke on Tampa Bay is a truly delightful spot, in which tropical fruits flourish luxuriantly. The lime, the orange, and the fig find there a genial soil, whilst the moss-covered† live-oak and the Pride of China, add beauty and variety to the scene. Vegetation is continuous through every season, culinary vegetables growing in January; and the temperature of the waters in rivers and bays will admit of bathing in every month of winter. To the northern man, all nature seems changed. Even the birds of the air—the pelican and flamingo—indicate to him a climate entirely new. Having accompanied a boat expedition, the object of which was to explore the sources of the St. Johns, the writer found in the month of January, the high cane-grass which covers its banks intertwined with every variety of morning glory, (*convolvulus.*) The thermometer at mid-day, in the shade, stood at 84° Fahr. and in the sun, rose to 100°; and at night we pitched no tents, but lay beneath the canopy of heaven with a screen perhaps

*In 1835, nearly all the orange trees in Florida were destroyed by frost—an occurrence previously unknown in the memory of the oldest inhabitant.

†This parasite, (*Tilandsia usneoides,*) known by the vulgar name of Spanish moss, casts a sombre aspect over the scenery of Florida. Resembling the weeping willow clothed in the garniture of hoary age, it has been styled, not inappropriately, the shades of death.

over the face as a protection against the heavy dews. Notwithstanding the day attains such a high temperature, the mercury just before day-light often sinks to 45°, causing a very uncomfortable sensation of cold.

But there are other localities which combine advantages equally important to the pulmonary invalid. On the eastern coast of Florida, at New Smyrna for example, the warmth and softness of the air wafted from the isles of the West Indies across the gulf-stream, in the winter months, are truly grateful to the senses lulling them into repose. Even the virtuoso would not be without materials for contemplation; for here may be seen the ruins of Dr. Turnbull's colony of Greeks, Italians, and Minorcans—his unfinished castle, whose dilapidated and mouldering walls are covered with ivy, amid the luxuriance of the palm,* orange, mangrove, and magnolia. Cape Sable and the coast extending northward towards Key Biscayno, as well as the adjacent islands, would also afford an excellent winter retreat. Adapted to the cultivation of tropicoid fruits, and abounding in game, fish and turtle, this region, from the prevalence of the sea-breeze or trade-winds, presents a climate delightful even in the summer season. Key Biscayno, which is situated on the southeastern coast of Florida, affords an excellent harbor of safety and protection from the storms which frequently rage along the coast. The island is thus described by a medical officer of the army, when stationed there six months:—

"In the midst of summer, the constant prevalence of the sea-breeze renders it at all times delightful in the shade. During the winter, frost is never known; nor is it ever so cold as to require the use of fire. The eastern beach commands a beautiful view of the open sea, and offers, especially during low tide, an admirable place for exercise on horseback for the distance of four or five miles, and for morning and evening walks. The waters around abound in green turtle, and a variety of excellent fish, forming a wholesome and nutritious diet, particularly well suited to cases of pulmonary disease. There is also an abundance of crawfish and crabs. The mainland is only a short distance off, abounding with deer and a variety of other kinds of game, affording a fine field for the

*The cabbage-palm, [*chœmarops palmetto*,] is a beautiful tree, presenting sometimes a straight column of 80 feet without a limb. The trunk is generally enclosed by the foot-stalks of the old branches, resembling a coarse net-work. The embryo head is esculent, bearing the taste of unripe chesnuts. The leaf is used in the manufacture of hats, mats and baskets, as well as in the construction of the Indian's wigwam.

sport and exercise of hunting; and the vicinity of the West India islands will, at all times, present the opportunity of procuring the best of tropical fruits.

"The proprietor of the island will, in a short time, erect buildings, and will establish every means in his power for the convenience and comfort of those who may be disposed to visit the place for the recovery of their health. There has been not a single case of fever among the troops since I have been stationed here, and I have no hesitation in stating my opinion that it will be perfectly healthy at all seasons of the year."

When not exposed to the influence of malaria, the climate of Florida, as along the eastern coast, is, even in the season of summer, quite salubrious. The sea-breezes, aided by the deposition of moisture from the atmosphere, generally render the nights pleasant, even in the hottest months and in the centre of the Peninsula. The writer can state from personal knowledge, that after the middle of August the nights become so cool that a blanket is desirable. The climate of the tropics is characterized, as Humboldt justly remarks, much more by the duration of heat than its intensity; and it is to the action of this unceasing high temperature that much of the injurious influence of tropical climes on northern constitutions, is to be ascribed.

But woe to the invalid that braves the torments of a summer residence under the disadvantages of a camp life? Insects are the pest of a tropical clime. As to fleas, flies, and ticks, the interior of Florida may well rival Egypt in the days of Pharoah. The chigoes insinuate themselves beneath the skin, where they soon establish populous colonies. Flies seem, indeed, to form a component part of your food, your drink, and the atmosphere you inhale. Lizards, snakes, and scorpions, get into your bed, whilst the industrious ant and weevil not only eat your rations, but devour your books—the food of the mind. All nature seems alive; and every hour you observe some uncouth living thing, whose family name has scarce been registered by the entomologist. In addition to these annoyances, you will have a nightly serenade performed by wolves and alligators—a woful concert of whining yells and dismal bellowings, constituting the realization of a *howling* wilderness.

Since a more rational view of the nature and causes of pulmonary diseases has prevailed, the beneficial effects of change of climate in certain forms have been fully established. Formerly, when consumptive patients were indiscriminately con-

demned to endergo expatriation, the unfortunate invalid often sank before he reached his destination, or he was doomed soon to add another name to the long and melancholy list of his countrymen, who seem to have sought a foreign land, far from friends and home, only to find a premature grave. When it is considered, however, that all remedial agents have proved so inefficacious in phthisis pulmonalis as to place it emphatically among the *opprobria medicorum*, it is no ways surprising that its victims should seek beneath the influence of a more genial clime, the relief, however uncertain, denied them in their own.

The south-western coast of a country is generally mild and humid, and consequently soothing but rather relaxing. In diseases accompanied with an inflammatory condition of the general system, or dependent on an excited state of particular organs, this variety of climate has been found more especially beneficial. Decided advantage may reasonably be anticipated in chronic inflammatory affections of the trachea and bronchia, attended with a dry cough and little expectoration; but when such cases occur in individuals of a languid and relaxed state of constitution, accompanied by copious expectoration from the mucous surfaces, the disease is much more likely to be aggravated than relieved. These remarks, which are made by Clark "on Climate," are equally applicable to all other diseases attended with great relaxation of the general system. It is, therefore, manifest that, in recommending a change of residence to invalids, attention to these distinctions, both in regard to varieties of climate and peculiarities of disease, is absolutely necessary.

The climate of Florida has been found beneficial in incipient cases of pulmonary consumption, and those threatened with the disease from hereditary or acquired predisposition. It is in chronic bronchial affections more particularly that it speedily manifests its salutary tendency. To distinguish the *bronchial* from the *tubercular* form of the disease, often demands considerable powers of discrimination; and upon this distinction frequently hangs the propriety of a removal to a southern clime. The application of the physical means of exploration, now so ardently cultivated, has fortunately given a greater degree of certainty to our diagnosis.

But there are other forms of disease in which such a climate as that of East Florida is not unfrequently of decided advantage. To this class belongs *asthma*. As this term is too commonly applied to every disease in which difficulty of respiration is a prominent symptom, let us not prescribe for a mere

name; but when consulted on the propriety of a change of climate, let the pathological condition of the patient be duly estimated. In simple spasmodic asthma, unconnected with organic disease, or in that form which is complicated with chronic bronchitis, or is symptomatic of primary irritation in other viscera, such as the stomach, intestines or uterus, the patient is generally much benefited. In asthma connected with affections of the heart, a mild climate often affords temporary relief. In this variety of complication, a sea-voyage is frequently of striking service.

In chronic disorders of the *digestive* organs, when no inflammation exists or structural changes have supervened in viscera important to life, but the indication is merely to remove diseases of a functional character, a winter residence promises great benefit; but exercise in the open air, aided by a proper regimen, are indispensable adjuvants.

In many of those obscure affections, called *nervous*, unconnected with inflammation, exercise and travelling, in this climate, are frequently powerful and efficient remedies.

Chronic rheumatism, though apparently much less under the influence of meteorological causes than pulmonic affections, will often be benefitted by a winter residence in Florida. As these cases often resist the best directed efforts of medicine, it is the only remedy which the northern physician can recommend with a reasonable prospect of success. When the disease is complicated with much derangement of the digestive organs, it is customary in Europe to visit such places as combine the additional advantage of a course of bathing, as the mineral waters of the Pyrenees, those of Aix in Savoy, and the various baths of Italy.

When there exists a general delicacy of the constitution in childhood, often the sequel of rubeola or scarlatina, manifesting itself by symptoms indicative of a scrofulous disposition, a winter residence in a warm climate frequently produces the most salutary effects. At the period of puberty in females, a similar condition of the system often arises, preventing the development of those new functions peculiar to this stage of life. This general derangement, if not soon corrected, often results in a constitutional disorder beyond the resources of our art, denominated by Clark "*Tubercular Cachexy*," the precursor of pulmonary consumption. If the winter can be passed in a warm climate, and the patient have the advantage of exercise on horseback, warm sea-bathing, and a well regulated diet, the youthful invalid may often be rescued from an untimely grave.

Another form of disease remains to be alluded to, in which a change of climate promises its healing powers, *viz:* premature decay of the constitution, characterized by general evidence of deteriorated health, whilst some tissue or organ important to life commonly manifests symptoms of abnormal action. This remarkable change often occurs without any obvious cause, and is not inappropriately termed in common parlance, "a breaking up of the constitution."

Let not the invalid, however, trust too much to a change of climate. Unfortunately for the character of the remedy, it has been recommended indiscriminately and without proper consideration. It has been too often resorted to as a last resource or forlorn hope; or in cases susceptible of alleviation or permanent cure, it has been wholly misapplied. One person is hurried from his native land with the certainty of having his sufferings increased and his life shortened, instead of being allowed to die in peace in his own family; whilst another, who might derive much advantage from the change, is sent abroad wholly uninstructed in regard to the selection of a proper residence, or ignorant of the various circumstances by which alone the most suitable climate can be rendered beneficial. It is one of our most powerful remedial agents, and one too which, in many cases, will admit no substitute. But much permanent advantage will result neither from travelling nor change of climate, nor their combined influence, unless the invalid adheres strictly to such regimen as his case may require. This remedy must be considered in the light of all other therapeutic means, and to ensure its proper action, it is necessary that the requisite conditions be observed.

At the present time, St. Augustine and Key West are the only places, which afford the conveniences required by the wants of an invalid; but assuming that proper accommodations can be equally obtained at all points, Key Biscayne on the southeastern coast, or Tampa Bay on the Gulf of Mexico, claims a decided preference, especially over St. Augustine. As a general rule, it would be judicious for the northern physician to direct his pulmonary patient to embark about the middle of October for Tampa Bay. Braving the perils of the wide ocean, he will realize the healthful excitement incident to the fears and hopes of a sea-voyage. Having spent the winter months at Tampa, let him proceed early in March to St. Augustine, by way of Dade's battle-ground and the old Seminole agency. In addition to the corporal exercise, he will find food for mental digestion at every step of his journey. Having thus reaped the benefit of a sea-voyage and all

the advantages to be derived from a change of climate, the valetudinarian may return to his anxious friends so much renovated in health and spirits as to be capable of enjoying again the blessings of social life.

As long, however, as predatory Seminole bands retain possession of this peninsula, few itinerant invalids will imitate the example of the celebrated Spanish adventurer, Ponce de Leon, who, in the wild spirit of the 16th century, braved the perils of unknown seas and the dangers of Florida's wilds, in search of the far-famed fountain of rejuvenescence. When the period, however, of the red man's departure shall have passed, the climate of this "land of flowers" will, it may be safely predicted, acquire a celebrity as a winter residence not inferior to that of Italy, Madeira, or Southern France.

A paragraph of this extract it will be observed, relates to the influence of the climate of Florida on *rheumatics*. It is not improbable, that in many coses chronic rheumatism may be alleviated or cured by a sojourn in the south; but we must confess that the evidence in favour of this opinion, furnished by the work before us is not very strong. From a table which we shall not extract, the proportion of cases which have occurred at the posts of East Florida, is greater than the posts of New England, and scarcely less than an average of all the military stations in the union. It is, however, considerably less than the average of the garrisons near the lakes and on the upper Mississippi; though, again, it is greater than the posts of the south west and the lower Mississippi, especially the last, where the number is only about two thirds of the general average; from all which we are warranted in cautioning our brethren, against promising their patients with chronic rheumatism, the same benefits from a visit to East Florida, which they may predict for those who labour under chronic laryngitis and bronchitis.

In conclusion we must express our gratification at the care, ability and candour with which Dr. Forrey has discharged the duty assigned him; and express the hope that our army friends will persevere in the good work they have begun, until the medical statistics of the army shall assume

a scientific and settled character; and the results of their enquiries be made available, in practice, to the whole medical profession. D.

BIBLIOGRAPHICAL NOTICE.

A System of Practical Medicine, comprised in a series of original dissertations. Arranged and edited by Alexander Tweedie, M. D. F. R. S. &c. With notes and additions, by W. W. Gerhard, M. D. &c. Philadelphia. Lea & Blanchard. 1841.

We have just received a copy of this work, completed as it is in five volumes. We of course could not, in any reasonable limits, give even a very condensed view of the monographs of which it is made up; and, not having called their attention to the volumes as they came out, we would now earnestly recommend to our country brethren to supply themselves with this ready and valuable book of reference. The contents of the volumes are as follows:

Vol. 1. Dissertations on Fevers, General Pathology, Inflammation, and Diseases of the Skin. By Drs. Symonds, Allison, Christison, Schedel, Locock, Gregory, Burrows, and Shapter.

Vol. 2. Dissertations on Nervous Diseases. By Drs. Hope, Prichard, Bennett, Taylor, and Thompson.

Vol. 3. Dissertations on Diseases of the Organs of Respiration. By Drs. Williams, Carpenter, and Joy.

Vol. 4. Dissertations on Diseases of the Digestive, Urinary, and Uterine Organs. By Drs. Joy, Symonds, George Budd, Thompson, Christison, Ferguson, and Simpson.

Vol. 5. Dissertations on Hæmorrhages, Dropsy, Rheumatism, Gout, Scrofula, etc., etc., etc., with a Formulary and General Index. By Drs. Burrows, George Budd, Watson, Shapter, Rowland. William Budd, Farre, and Joy.

Selections from American and Foreign Journals.

Case of Polypus Uteri, removed by Excision: with practical remarks. By Chandler R. Gilman, M. D., Prof. of Obstetrics and the Diseases of Women and Children in the College of Physicians and Surgeons, New York.—Polypus Uteri is a rare disease, and although it is a well settled principle, that the tumor should be removed as soon as possible, yet the manner of removal is still matter of dispute. The older English writers, are nearly unanimous in favor of the ligature, but among the more modern, Simson of Edinburg, Churchill of Dublin, Sir B. Brodie and Mr. Arnott, favor excision, and I find it stated in a late number of the British and Foreign Review, that it is now preferred by the majority of English practitioners. On the continent, excision has decidedly the majority in its favor. Dupuytren revived and established the practice in France, and in Germany, Osainder, Siebold and others have done the same; it is now everywhere preferred.

With all this weight of authority in its favor, I believe the operation has not been extensively adopted in America. I cannot find that it has ever been performed in New York. The fear of hæmorrhage, the authority of some of our most distinguished teachers, the habit of preferring the ligature, have each, probably, had their weight in producing this result. Believing that excision is, in the majority of cases, the better operation, I have thought that the report of a case in which it was practiced with the most entire success, might do good, by leading the junior members of the profession to examine the ground thoroughly before they resolve to "walk in the footsteps of their predecessors." Perhaps even some of the advanced may think proper to reconsider their opinions, and adopt an operation which, if it can be proved to be equally safe, is certainly in every other respect to be preferred.

May 29, 1841.—I was requested by Dr. M'Comb to see a German female, Mrs. M——, aged 33—married three or four months. Before seeing her, I received the following history of her case. Mrs. M. enjoyed very good health and was rather robust till about eight months ago, when the menses began to be very profuse, continuing for six or eight days, and very free during all that time. During the intervals, however, she had no sanguineous or other discharges. About two weeks after her marriage she was again profusely "*unwell*," and from that time to the present, the hæmorrhage has been constant, though at some times more profuse than at others. The general health is beginning to suffer seriously, the strength is gone, the appetite diminished, and the symptoms of anæmia are gradually being developed. Such was the brief history of the patient; her appearance verified it, the pallor is excessive, the pulse weak but easily excited, the breathing hurried, the muscular strength utterly prostrated. Ergot had been given a few hours before I saw her. The hæmorrhage was slight but she complained much of pain in the back, bearing-down efforts and frequent desire to make water. Bowels were moved freely by castor oil this morning, evacuations natural. *Examination per vaginam.*—The vagina is occupied at its upper part by a firm, dense tumor, about the size of a hen's egg: at first I supposed, from the woman's complaints, that it was very sensible to the touch; she screamed when I pressed it from side to side of the vagina. Passing the finger upward along the tumor, it was found to be attached to, or a continuation of, the anterior lip the os tincæ: the finger could easily be passed half round the tumor behind, and then into the os. The anterior lip was firmer than natural, though scarce so firm as the tumor: the posterior lip was natural, and the soft, spongy, relaxed feel which it presented, and which exactly resembled that of the os during the menstrual flow, contrasted remarkably with the dense cartilaginous feel of the tumor, and the anterior lip. Was this a polypus? The symptoms rendered it probable, but the examination was not quite satisfactory. The tumor was not pediculated, and it appeared to be sensible, at least pressure upon it gave pain. More careful examination cleared up the latter and the chief difficulty. I found by cautious trials, that tho' pressure upon the tumor gave pain, it was only when that pressure communicated motion to it; scratching, or even puncturing the tumor, (for I tried this by means of a pointed probe,) excited no sensation. This decided the diagnosis in favor of polypus, and the immediate removal of the tumor was resolv-

ed on. After a full consideration of all the particulars of the case, with the advantage of a consultation with Dr. Delafield, I resolved to remove it by excision. Upon the general merits of this operation and that by ligature, I shall remark by and by. The particular features of this case, which led me to prefer excision, were, the situation of the tumor, attached to the anterior lip of the os tincæ, and of course fully within reach; the density of its structure, rendering it probable that the process of decay would be slow and tedious; and the extreme heat of the weather, during which the constant presence for many days of a putrifying mass in the vagina, would be likely to induce serious symptoms. In addition to all these reasons, the fact that a certain number of cases of puerperal fever had appeared in New York during the last six or eight weeks, was not without its weight. It is well known that where peurperal fever has been epidemic, the operation of removing a polypus has been followed by a peritonitis, having all the characteristic symptoms of the puerperal epidemic. These considerations determined me to remove this tumor by the knife, which I accordingly did, in the presence and by the kind assistance of my colleague, Professor Parker.

The bladder and rectum having been well evacuated, Weiss' speculum vaginæ was introduced, and upon expanding the blades the tumor was brought fairly into view. The color was bright red, and it contrasted in this respect very strikingly with the vagina, which was singularly pale. I grasped the tumor with a pair of hooked forceps and tried to drag it down. I found, however, that here the speculum presented an obstacle, for as I pulled down, the ends of that instrument pushed up, or at least supported the parts. The speculum, too, hindered the free use of the fingers in the vagina; it was therefore withdrawn, and then the tumor was drawn down till the neck, or rather its junction with the anterior lip—for the tumor was not pediculated—was fairly within the reach of the finger. Cooper's bistoury, with blunt point and a small portion of cutting edge, was now introduced flat upon the fore-finger, and when the point had fairly passed the base of the tumor, a few strokes sufficed to divide it. On withdrawing the polypus in the grasp of the forceps, I was prepared for some hæmorrhage, and placed a napkin over the vulva; to my surprise, on looking at it after the lapse of several minutes, it was not even tinged. Before I left the room there was a very slight stain, but nothing worthy of the name of hæmorrhage occurred then or since. The discharge ceasing with the removal of the tumor, the recovery was un-

interrupted and satisfactory. On examining the tumor, it was found to consist of dense white fibrous matter, presenting upon its very surface some traces of vascularity, but within entirely devoid of anything of the kind.

Remarks.—There are two or three points about this case to which I wish to direct the reader's attention. 1st. The fact that though the tumor was insensible, yet when pressure communicated motion to it, great pain was complained of. The pain in this case was doubtless caused by the forcible dilatation of the cervix when the tumor was moved. May not something of this sort have given rise to the opinion that tho' polypi are very generally not sensible, yet in some rare cases they are acutely so? I throw out the idea merely as a suggestion. As an aid to diagnosis, puncturing the tumor with a pointed probe, or scratching it with the sharp finger nail, should be remembered. 2nd. The bright florid red of the tumor, when the vaginal mucous membrane was remarkably pallid. This certainly depended on the lining membrane of the tumor. What is that lining membrane, and has it any connexion with the profuse hæmorrhages by which these cases of polypi are distinguished? The source of these hæmorrhages has long been a disputed point, and is yet involved in the most profound obscurity. Gooch, believes, that the flow is from the lining membrane of the tumor. Hamilton contends, that to support the growth of the tumor, a sanguineous flux takes place to the uterus. Levret refers it to the distension of the uterus, the enlargement and opening of its venous sinuses. "Hence,"—says he—and the remark is quoted with approval by Boivin and Duges—"polypi of the cervix seldom cause hæmorrhage." In this conflict of opinion, I confess I incline to that of Gooch, and I am somewhat strengthened in my opinion, by the appearance of great vascularity by which the surface of this polypus was distinguished, as well from the cervix uteri as from the vagina. At any rate, the fact of vascularity is worth noting. 3rd. As to the operation, the directions in the books are, to grasp the tumor, draw it down till the stalk pass out of the vagina, then with a bistoury or scissors cut it off close to the vulva. This, as I happen to know, was the practice of Lisfranc. Now to this dragging down I object, as inflicting both unnecessary pain and additional danger on the patient, and being quite unnecessary. That it gives very great pain will readily be believed, but it is not equally certain that it is attended with danger? When we thus pull the uterus down, upon what does the strain fall? certainly upon the reflexions of peritoneum, forming the broad,

the utero-sacral, and the utero-vesical ligaments. Now, this peritoneum is slightly, if at all, extensible, and therefore can only give way by being detached at some point or points. Is not this violence offered to the peritoneum exactly the means most likely to produce the thing we have chiefly to fear after this operation, I mean peritonitis? But is this dragging the polypus out of the vulva, necessary? I think not. If the pedicle is fairly within the reach of the fingers at the point where we wish to divide it, and we use a bistoury with blunt point and little cutting edge, especially if the blade have some lateral curvature, the operation can be performed without much difficulty; and, supposing the operator to possess a reasonable share of caution and dexterity, without the slightest danger of wounding either the cervix or the vagina. I had intended to offer some observations on the comparative merits of excision and ligature, but my paper has already extended to sufficient length, and I must defer them.—*N. Y. Med. Gaz.*

Excision of the Uvula and Tonsil, for the cure of Stammering.—A Mr. Poett has been investigating the merits of Mr. Yearsley's operation, which, like a great many other novel remedies, will not bear a close inspection. A Mr. Butler, one of the earliest cases he operated on, and a very formidable one, had, as soon as his throat healed, a return of his disease. Two boys, reported to have stuttered and been cured, proved on inquiry, the one never to have done so, the other to be as bad as ever. Case number five was no better, and two could not be found at the address given in the work. Several others owned that at first they felt some relief, but when excited, or agitated, stuttered as badly as before. When once the influence of the operation on the nervous system has subsided, the infirmity will probably re-appear, and though the simple and easy operation may be tried with a faint prospect of benefit, no reliance can be placed on it, and it will probably share the fate of all over-rated novelties, and fall into deserved oblivion. Mr. Yearsley has greatly deceived himself or others. This operation is not "what it was cracked up to be." Shall we be permitted, descending from "grave to gay," to append a little anecdote as somewhat "germane to the matter," and *the times?* A gentleman who stuttered badly, put himself under the care of a celebrated curer of the infirmity, and derived, as

he thought, much benefit from his advice. Meeting one day, a friend who stuttered as badly as he had done, he very kindly said to him, "W-w-w-why, m m-m-my d-d-dear S-s-sir, d-d-d-d-don't you g-g-g-go to the m-m-m-man that cu-cu-cu--cured me?" Mr. Poett's paper is in the Lancet for June 12, 1841.

A Reviewer, in the last number of the British and Foreign, states that he too has taken pains to look up some of Mr. Yearsley's *cured* cases, and from personal examination he condemns, as every man of sense and honor must, this absurd operation.—*N. Y. Med. Gaz.*

Case of Calculous Concretion forming around a fragment of a Bougie of the Slippery Elm. By Willard Parker, M. D., Professor of Surgery and Surgical Anatomy in the College of Physicians and Surgeons of the University of the State of New York.

April, 1839. I was called to visit a patient at New Richmond, and requested to come prepared for the operation of lithotomy. The patient I found to be a man of naturally good constitution, a carpenter, married, and twenty-eight years old.

Upon inquiring into the history of the case it appeared, that three years before he had had some uneasiness in the urethra and difficulty in passing his urine. He applied to his family physician and soon obtained relief, and remained quite well until January, three months previous to my visit to him. He was then "down the river," and much exposed to wet and cold, after which his former difficulty in the urethra made its appearance again. He was advised to employ the slippery elm bougie, and proceeded at once to prepare one from the inner bark of the elm, fifteen inches long, and after immersing it in warm water for a few minutes, he succeeded in introducing it as directed, into the urethra; but when he attempted to withdraw the instrument it severed, and four inches were left behind. This almost immediately passed into the bladder.

Cystitis ensued at once, and the patient suffered intensely for a long time: at length, the severity of the symptoms abating, he was enabled to reach his residence. I found him greatly emaciated, pulse over one hundred, discharging from the bladder, as was judged by his attending physician, Dr.

Johnson, six or eight ounces of pus and mucus per diem. He had considerable suffering still about the neck of the bladder and along the urethra, and was unable to move without great distress. He had irritation at the rectum, tesnesmus, and some prolapsus.

There was no difficulty in the introduction of the sound: at the inferior fundus of the vesica urinaria was situated a large mass, immoveable, and having a gritty, yielding feel, as the sound was pressed upon it. On introducing the finger into the rectum, the foreign body could be distinctly felt, and it seemed impossible to remove it from its position.

It was decided that the mass must be removed, and for that purpose, the ordinary single lateral operation for stone was performed. After the incision into the bladder was made, and the forceps introduced, the bark could not be reached by them so as to be removed from its bed. The scoop was next employed, and by the aid of this instrument and the finger, the mass was loosened from its confinement and withdrawn, the bladder washed out with care, and the patient removed from the table to the bed.

Following the operation, there was considerable constitutional excitement for a few days, after the subsidence of which his health became better, the wound healed kindly, the discharge from the bladder soon ceased.

The points of interest in the above case, are, first, the nature of the nucleus, which was throughout encrusted with phosphatic deposit; and second, the fixedness of the mass at the bas-fond of the bladder. It is very probable that had the foreign substance been allowed to remain, ulceration would have taken place into the rectum, forming a recto-visical fistula and from the irritation induced in the general system the patient would have succumbed.

The elm, it ought to be remarked, is a valuable article in surgery, as a tent to dilate fistulous openings, and were it not for its fragility it might be employed as a bougie for dilating strictures of the urethra. When the stricture is located just behind the glans penis, it may then be employed with safety. The elm, when used to dilate, must have been dried, and when shaped, then plunged into warm water for a few minutes, until its exterior becomes lubricated by the mucilage, and then it is introduced with much ease, and soon swells very much, and overcomes the constriction.—*N. Y. Med. Gaz.*

On the value of Albumen in the Urine, as indicative of Renal Disease.—By W. C. Roberts, M. D., of New York. It has been, and still is by many supposed, that the presence of albumen in the urine is always a sure sign of the existence of renal disease. Upon this subject much misconception exists, and it is important to set the matter in its proper light.

It is incorrect to hold, as some do, that albuminous urine is pathognomonic. or, by itself characteristic, of granular degeneration of the kidney, or Bright's disease. A variety of other causes, as a blister, certain indigestible articles of food, as pastry, cheese, &c., hæmaturia, the existence of pregnancy, the action of mercury, and a variety of local irritating causes, will render the urine albuminous.

In reference to this matter, Dr. Bright, the distinguished discoverer of the disease which bears his name, observes: "I am anxious to explain my view, on an important point, connected with the disease attending albuminous urine, in reference to which I have been singularly misunderstood, and as a necessary consequence, misrepresented, by many who have written and lectured on this interesting subject. The misconception to which I refer is, that I maintain the occurrence of albuminous urine to be always, and necessarily, connected with that organic disease, which, in its various shapes and modifications, has been so fully described. Now the truth is, that I have never written upon the subject, *without studiously stating the contrary*, and declaring, that I considered the disease, in its commencement, *entirely functional.* In my second volume, I thought it right to say: 'from the observations of some of my professional brethren, I am led to suppose they consider me as asserting, that this description of urine exists *only* when organic disease has already taken place in the kidney. This, however, is by no means the view which I have taken of the subject. I believe functional disease in this, as in most other cases, precedes the structural change for even many weeks and months, and that the kidnies of a patient who has been cut off early by some other disease, may afford very little evidence of diseased structure.'"

Dr. Graves, of Dublin, and Dr. Elliotson, of London, have been the most distinguished among the opponents of the idea improperly, as it thus appears, ascribed to Dr. Bright, of the universality of the connexion between albuminous urine and diseased kidney. The former states distinctly that he cannot admit that the albuminous state of the urine in dropsy, depends upon an alteration in the texture of the kidney; hav-

ing so often seen cases in which the albumen disappeared under suitable treatment, that it must depend upon functional disorder. The reader will find some remarks by him on this subject, in the Dublin Journal; and in the American Journal of the Medical Sciences, for Feb., 1839, he will find a clinical lecture of his, in which he details the case of a man who had dropsy with albuminous urine, who recovered—his urine becoming healthy, and so continuing for a fortnight. At the end of this time he got erysipelas of the head and face, and his urine became albuminous again. He died, and on examination, his kidneys were found large, pale, rather soft, but not granular. From this case he draws the conclusion, that the general state of the constitution influences the appearance of albumen in the urine, more than any change in the structure of the kidney. He cites another case by Morison, where a man passed albuminous urine for five years, and whose kidneys, except that they were blanched, were natural. He then mentions a case, where a boy, after scarlatina, passed highly albuminous urine, whose kidneys were found healthy after death: and he says that Forget has recorded many others. He further adds, that the albuminous state of the urine appears to him to be the *cause* of Bright's disease. And he conceives that a deposition of albuminous molecules, separated by coagulation, remain in the secreting tubes of the kidneys. which they gradually fill and distend, and thus give rise to an obliteration of the tissue, which is called '*Morbus Brightii.*' The kidneys are thus not the cause of the secretion, but themselves the receptacles of it.

This ingenious theory is founded on a microscopical examination, made by Valentine. It is, however, only a single case of one form of the disease, and is controverted by subsequent examinations of Gluge's.

Dr. Elliotson remarks, that because the urine is albuminous, it cannot, he thinks, be inferred, that the kidney is in a state of organic disease; "for," says he, "I have seen so many dropsical persons, who had albuminous urine, restored to perfect health, that I could not suppose the kidney to have been organically diseased. Nor can I admit," he continues, "that there existed in these cases, inflammation or congestion of the kidneys, because I did not observe the signs of those affections." Lastly, he has, he says, seen the urine albuminous when there existed no reason to suspect a disease of the kidney, and although, in a state of disease or congestion of the kidney, the urine may be generally albuminous, he should not, because it was so, conclude the kidney diseased.

Not to cite any of those cases particularly, in which it is said that albuminous urine has been met with accompanied by renal disease, it may be stated, in a general way, that some are of dubious authenticity, or import, being scarcely free from the suspicion that they were, in some measure, connected with the morbid action which gives rise to granular deposition; and the whole taken together, will merely show, that beside granular degeneration, *some other diseases may, in a few, comparatively very rare instances, be accompanied with the discharge of albumen in the urine*, the affection being then, as admitted by Bright, functional only. The knowledge of this fact is certainly useful in guarding us against that unreservedly discouraging opinion, which without it we might feel always disposed to give, both as to the probable supervention of dropsy, when it had not yet occurred, and the almost certainly fatal result when it had. But, unquestionably, there is no other cause, or rather, there are no other causes taken together, by which an albuminous impregnation is so often induced, as by the disorder in question; and it may, in the present state of our knowledge, be stated as a general proposition, that the excessive loading of the urine with albumen is characteristic of granular degeneration of the kidney. In no case of this disease hitherto noticed, has the urine failed, at some time or other, to be albuminous.

Besides the diseases which have been already noticed, albumen is found in the urine as a consequence of certain organic diseases of the kidney also; these are pyelitis, chronic and acute nephritis, encysted states of the kidney, cancer, tubercle, cerebriform cancer, strumous degeneration, and diabetes.

The three following propositions embody the sum of our knowledge, with respect to the albuminous urine as a symptom of renal disease. 1st. Whenever its exists in the urine, there exists in all probability, a lesion of the genito-urinary apparatus. 2d. That the existence of such urine, of a diminished specific gravity, in a person presenting, as yet, no other symptoms of disease, is sufficient to indicate the existence of renal affection, and to prognosticate the supervention of dropsy if the affection proceeds. The exceptions to this general rule are, that the renal affection may be functional only, or be some other of the morbid states of the kidney, in process of development. 3rdly. That if a pale and turbid urine be passed, for the most part, depositing no sediment, giving by appropriate test an abundant albuminous coagulum, containing or not other elements of the blood, having a specific gravity below the normal standard, with a co-existing diminution of

the urea, uric acid, urates and phosphates, and there be *general anasarca*, with or without fever, or pain in the loins, there exist some of the anatomical characters which constitute albuminous nephritis. (*Rayer, Christison.*)—*N. Y. Med. Gazette.*

On Dilatation by Fluid Pressure in Stricture of the Urethra. By James Arnott, M. D.—Although our knowledge of the pathology of stricture of the urethra has been much extended by the labors of Hunter and others, the treatment of this very common and distressing disease differs at the present day in no very material circumstance from that which was followed two hundred years ago. In the works of Wiseman, published in the reign of Charles the II., the various practices now had recourse to will be found described. He mentions the use both of metallic and soft bougies; the application of caustic is noticed, a practice which was revived by Hunter; and cases are related in which the operation of opening the urethra behind the stricture was performed, instead of puncturing the bladder—an expedient of which the late eminent Sir Astley Cooper has been deemed the original proposer.

Unfortunately, this stationary condition, during the progress of almost every other department of surgery, has not preceeded from the treatment of stricture having attained perfection. On the contrary, it is acknowledged to be an opprobrium of the art. The means employed are admitted, by conscientious and intelligent surgeons, to be, in almost every case, but palliative; and although stricture may generally be much relieved by such means applied from time to time, it cannot be denied that the irritation which accompanies organic changes in a part of so much sensibility as the urethra, will, by long continuance, often produce other disease in the neighboring organs of the urinary and generative systems, which is sure to embitter, if it does not shorten, the life of the sufferer.

It is now many years since I introduced to the profession an account of practices in the treatment of stricture which I had had sufficient experience to recommend as substitutes for the very imperfect and sometimes hazardous measures in common use. But because the apparatus recommended was of

rather a complicated description, as compared with that usually employed, and because part of it was constructed on mechanical principles, with which surgeons generally were not familiar, it has either not been used at all in this country, (where the French modifications of plans of treatment I had proposed in impervious stricture, and of a new method of applying caustic, are almost unknown,) or in so imperfect and erroneous a manner, as to disappoint expectation.

The purpose of this paper is to describe a modification, which I have lately contrived, of the instrument employed in the dilatation of stricture, combining the essential requisites, for general use, of simplicity of construction and easiness of application; and I cannot doubt, from its great and manifest superiority over the means commonly had recourse to, in the degree of relief afforded by it, and the safety and quickness with which this is obtained, that it only requires to be known to be immediately adopted.

Dilatation of stricture has been effected in two ways: by instruments which operate on the principle of the wedge, opening the constricted part as they advance in the canal, of which description are bougies and sounds; and by instruments which are themselves capable of distension, and which, by being made to enlarge in diameter whilst within the stricture, exert their dilating force from the centre directly outwards, or, as it may be termed eccentrically. Amongst the principal advantages of eccentric dilatation over that of the wedge, when effected by a proper apparatus, are—that instruments so operating, having no tendency to stretch or tear the urethra in front of the stricture, by pushing on the stricture after having passed partially through it, the surgeon is enabled by their means to use greater force (if required) with safety, than with rigid bougies and sounds, which have this tendency; that there is no danger, from the opposition to the passage of the instrument being erroneously attributed to the stricture instead of the wrong direction of its point, of the surgeon's piercing the side of the canal, and causing effusion of urine, or false passage; that the dilatation being effected without irritation from friction, and following the yielding structure, may be rapidly made; that the whole of a long stricture may be dilated at once, or several strictures are acted upon at the same time, instead of the action being nearly confined, as in the case of the bougie, to the front or face of the first stricture; and that, from the power of enlarging the instrument in the interior of the canal to any size, the dilatation of the diseased part may be carried to any greater extent

than the diameter of the outer orifice of the urethra, so as to afford the best means of effecting a permanent cure.

The apparatus used for dilatation, on the principle just explained, consists essentially of a strong membranous tube of fixed dimensions, which is placed, in its empty or collapsed state, within the stricture, and then injected with fluid. I have used such a fluid dilator, with various modifications, according to peculiarities of cases. The form of instrument most easily constructed and applied, and which has not as yet been described, is merely a varnished silk tube of the required diameter, and of a length to extend from the orifice to a little beyond the stricture, closed at one end, and having a small metalic connecting piece at the other, into which the injecting syringe may be screwed. This tube, by means of a slight coating of waxy composition, is, for the purpose of passing easily, rolled into the form of a common plaster bougie; and when it is not required to be of very small diameter in its collapsed state, the requisite stiffness may be given to it by rolling it upon a small catgut or stilet. A woven silk tube properly varnished would be perfectly water-tight; but this is of less importance, as a thick mucilaginous liquid will not escape but very slowly from a very imperfect tube made by sewing together the edges of a riband. This instrument, which may be described as a dilatable bougie, is as durable, and may be made at as little expense, as any instrument used in the treatment of stricture.

In keeping up distension, by means of a dilator rendered impervious to fluid by gut or caoutchouc, instead of the stop-cock recommended in former instructions on the subject, a contrivance may be employed for fixing the pistion of the syringe, when the required degree of pressure has been made, as by a cord passing through the ring at the end of the piston rod, or by a screw. When the piston is depressed by a screw (which may constitute the piston rod) the patient can himself increase or moderate the pressure with the greatest facility. If the distensible tube be made of strong silk, it may be thus gradually distended until it becomes as hard as a cylinder of wood. A connecting flexible tube of silk and caoutchouc between the metallic part of the dilator and syringe, prevents any jerking motion of the instrument in the act of screwing on the syringe, and is a convenient index of the degree of pressure applied.

In other applications of the fluid dilator, as in the cure of stricture of the rectum, and in the operation of slowly dilating the male or female urethra for the extraction of calculi, a long

connecting tube of this description, bringing the screw which regulates the pressure conveniently to the hand of the patient, would render the apparatus very complete. I have shown in the appendix to the late edition of my work on Stricture and Stone, that the advantage of *slow* dilatation of the male urethra must have frequently occurred to the operators by the Marian method, who professed to follow nature in their proceedings, as it has occurred independently to several surgeons of late years; but that the want of any instrument which could fulfil the indication must have prevented the success of any attempt of the kind. The equable, elastic, and controllable nature of fluid pressure, makes a dilator, judiciously constructed on this principle, incomparably superior to any other means that has been employed for the purpose; and furnishes us with a method of extracting urinary calculi, which, if I am not much deceived, will soon supercede the present painful and dangerous operations.

When strictnre is to be dilated beyond the diameter of the orifice of the urethra, it is necessary to modify the instrument which has been mentioned above. The distension may be confined to the diseased part by placing a wide silk tube within another shorter tube of smaller diameter, or by passing it through a wide silver or elastic tube previously inserted as far as the stricture. In cases of very narrow stricture, only admitting instruments of the smallest size, a dilator may be passed through such a conducting tube, consisting either of a single or double piece of narrow gut dried in a compressed form, or of a silk tube rolled upon itself, and rendered sufficiently rigid by means of thick mucilage. It is unnecessary in these cases to have a distensible tube of the whole length of the conductor; a small bit tied upon the end of a long flexible tin tube, connecting it with the syringe, is sufficient.

In mentioning this mode of conveying a small instrument to narrow strictures by means of a conducting tube, I am led to notice a controversy which has been continued through several late numbers of the Medical Gazette, respecting the invention of what has been termed "the compound catheter." Dr. Buchanan, who claims the originality of this proposal, does not appear to be conversant with the modern French writers on urinary diseases, or he would have found that the plan of conducting small instruments through others of larger size is noticed in most of the works on that subject which have appeared in France during the last twenty years. But it is contended that Dr. Buchanan's instrument is more than a mere modification of former suggestions; that the principle

of it extends further: the smaller instrument, it is said, is not only conducted, but a way is prepared for it through the stricture by a dilatation effected by the pressure of the ends of the outer canulæ. Had a reference been made to the work from which M. Ducamp borrowed so liberally, instead of the treatise of M. Gerdy, who in this matter professes merely to follow Ducamp, it would have been discovered that there is no greater novelty in this idea of previous dilatation, than in that of conducting. In my Treatise on Stricture of the Urethra, (p. 133, 2d edition,) the following is mentioned amongst other means to be resorted to in cases of difficulty;—"The plan which I have recommended above, of passing a large canula (which in this case has a rounded end) enclosing an instrument down to the stricture, is very applicable here; pushing the canula against the stricture opens it, while the small bougie or catheter within is ready to be passed through."—*Lon. Med. Gaz.*

A Case of Ovarian Dropsy. By J. B. Kissam.—Mrs. D., aged 35 years, is the mother of ten children, had enjoyed good health till Feb. 1840, when she discovered an enlargement in the right side of the abdomen, and œdema of the lower limbs; in two months after she ceased to menstruate. Fluctuation being perceptible in the tumor, the use of calomel, squills, and digitalis was determined on. Under this treatment there was a decided diminution of size, and a single return of the monthly secretion. In September, however, the abdominal swelling again showed itself, with extensive anasarca of the lower half of the body, and of the abdomen, so great as to make the fluctuation very obscure. Her general health remained unimpaired, and she only complained of the great weight, difficulty of respiration, and an inability to lie down. The remedies before tried, were again resorted to, without benefit, and the increase of the fluid was so rapid, that paracentesis became necessary early in January last. The puncture was made at the usual point, midway between the umbilicus and pubis. The depth of the adipose and infiltrated cellular tissues was so great (nearly three inches) that after making the external incision with a scalpel, a large trocar was passed entirely to the guard of the canula, and the latter firmly pressed inwards before the fluid could be made to flow. Instead of

passing with the usual facility into the sack, the instrument seemed to meet with the resistance of a firm body, which was probably one of the tumors so commonly connected with the cyst in this disease. The fluid oozed so slowly from the wound, that the canula was withdrawn, and the incision left open, that the discharge might thus take place. On the following day it was ascertained that in the course of four hours, there had been evacuated forty-eight pints of a fluid, which soon firmly coagulated, and had precisely the appearance of blood; however, upon compressing a handful of it, it left no sanguineous stain; neither did the pulse give evidence of the system having sustained a loss of the vital fluid.

The abdomen, though somewhat softened, was not apparently much lessened in size. It was evident that the fluid was not entirely discharged; some relief was derived from the operation, and she was able to lie down for five or six weeks, after which a rapid accumulation took place. Medical treatment was resorted to, but without effect, and in the latter part of June it became necessary to repeat the operation. At this time, the anasarcous swelling of the abdomen and lower limbs was enormous, and fluctuation was discoverable only above the umbilicus. The patient could scarcely rise from her chair without assistance, and suffered much from dyspnœa; the measurement around the largest part of the body was *six feet and nine inches.* Owing to circumstances, my friend Dr. Hoffman advised me to make the incision and puncture *above* the umbilicus; from which a free discharge of transparent fluid was obtained, which soon coagulated. The inconvenience met with in the former operation from the depth of the infiltrated cellular tissue was at this time obviated by a suggestion from Prof. Gilman, viz: that the anasarca should be lessened around the point to be punctured, by pressing and kneading the part with the fingers for some minutes. After the perfect evacuation of the sac, the quantity drawn off proved by measurement to be *seventy-nine pints.*

The wound healed kindly, without any unpleasant symptoms. A new mode of treatment was now resorted to. She was put on the steady use of hydrarg., prot. iod., p. scillæ., and p. digital., which, after five weeks slightly affected the gums and acted very freely upon the kidneys. Three months have now elapsed, the patient's general health is very good, the anasarca has entirelp disappeared, and she has once menstruated; being the second time in the period of eighteen months. From a recent examination by several medical friends, it is evident there is no return of the disease, both

iliac regions being in a natural condition, and the abdomen perfectly flaccid.

From the previous speedy return of the disease, and the period which has elapsed since the operation, I am led to hope that its re-appearance need not be looked for; and that this may prove one of the few cases which yield to medical and surgical treatment combined.

Remarks.—The sanguineous appearance of the fluid first evacuated was new to me and to those who saw it. The resemblance of the fluid to blood was so exact that most of those who saw it, did not hesitate to pronounce it blood. Whence was this color? probably from a small quantity of blood being mingled with the fluid, the blood having flowed from some artery wounded in the operation. The trocar, as I have mentioned, seemed after having penetrated the abdominal wall to pass for some distance through a firm, dense structure. This was probably one of those tumors by which the walls of ovarian cysts are very frequently occupied—in it the blood vessel which supplied the blood, probably existed, and it was the dense fibrous structure of this tumor which prevent the free flow of the fluid on the first operation. That the bloody hue of the fluid was accidental, is proved by the fact that altho' the fluid was not entirely evacuated on the first operation, yet at the second it was found quite clear, though coagulable as before.

By the Editor of the Medical Gazette.—We record this case with peculiar satisfaction, because it was successfully treated by a remedy which, if not new, has been but little used. Mercury has, we all know, been frequently tried, but the weight of authority is against it. Iodine too has had its advocates, but we have few proofs, in the shape of well authenticated cases, of its curative powers. It would seem from Dr. Kissam's case, that more may be expected from the two remedies combined in the shape of iodide of mercury than from either singly. We recommend the remedy to the notice of our readers: let it be freely and fairly tried. That the trials should be fair, they will bear in mind that no treatment can be expected to avail, where the dropsical accumulation is the consequence of schirrus of the organ. This state (schirrus) cannot perhaps be certainly diagnosticated, but it should be suspected where the constitution is much broken, where there is evidence of cancerous cachexy, or where schirrus exists or has existed in any other organ. Again, to give this remedy a fair trial, the fluid should be fully evacuated first, and then,

the belly being well supported by tight bandages, let the diuretic be given till the gums are touched. The beneficial effect of tight bandaging is strongly, though not too strongly, insisted on by Hamilton; it should never be neglected. We may not dismiss this case of successfully treated ovarian dropsy, without a reference to the various surgical operations, those detestable "*feats of surgical daring*," which have been proposed and tried for the cure of the disease, and which have all been defended by assuming that the disease for which they were proposed was utterly incurable. We have in some editorial hints, on surgical ethics, already expressed our opinion of the propriety of this notion, that a surgeon is justified in trying any and every operation on a patient where she happens to have a disease which he thinks incurable, that is which *he does not know how to cure.* This, as we have said, is no reason at all for operating: the propriety of that step is to be settled by other and far different considerations. But how will the gentlemen who have been in the habit of very formally and, as they fancy, very scientifically, *putting their patients with ovarian disease to death*, whether by excision or by the introduction of tents, trocars or the like, feel, when they find that this so called incurable disease, has yielded to medical treatment after two tappings, one of them, as we believe, the largest on record (seventy-nine pints.) Surely one such case (we do not mean to say it is the only one on record,) should put these barbarous operations out of the mind of every man who means to be anything but a mere barber surgeon. We have no doubt if it had been Mrs. D.'s fate to fall into the hand of one of these gentry, she would now have been "sleeping in a bloody grave," and the records of science would have been disgraced, and the heart of every man of common humanity sickened, by the detail of another "*feat of surgical daring;*" perhaps we should have had the bloody history in all its fearful and disgusting details trumpeted forth in the penny papers, that all the world might know how recklessly Dr. —— could cut and carve the human frame. And then, the butcher would have called himself, and others would have called him, a surgeon. Thank God, such was not the fate of Mrs. D., and as a consequence, she lives, the centre round which the fond affections of a social circle cluster, and the barber surgeons have one the less murder to answer for. We congratulate Dr. Kissam, with our whole heart, on the result of his *case.—N. Y. Med. Gaz.*

New Treatment of Hydrocele. By M. Jobert.—This mode of treatment, which is founded on the same principles as that proposed by M. Velpeau for the cure of inguinal hernia, has already been put in practice by M. Jobert in several cases, and with every appearance of success. The following are the steps of the operation, as described in the report of the first case in which M. Jobert had followed the practice.

A small and very narrow bistoury was introduced at the middle and anterior part of the tumour, its cutting edge being directed inwards, and its back outwards. When the tunica vaginalis was pierced, M. Jobert depressed the handle of the bistoury, and carried it on in a direction parallel with the cord. Having reached with its point the summit of the tumour, he turned the cutting edge forwards as if to incise the integuments. This done, he withdrew the bistoury, dividing with its point the tunica vaginalis from the upper end of the sac to the point where the skin had been punctured. The bistoury was again immediately introduced by the same puncture, and the inferior part of the tunica vaginalis incised in the same manner. The fluid was then evacuated by the small puncture and compresses soaked in a solution of muriate of ammonia were applied. The patient suffered little during the operation, and nothing afterwards.

The day after the operation a small longitudinal depression was felt through the scrotum, corresponding with the point where the tunica vaginalis had been divided.

The operation was performed on the 22d of June, 1840, and the patient left the hospital about the middle of July, to all appearance cured.

In a case on which M. Jobert has since operated, in addition to the longitudinal incision he made likewise a transverse one, with the view of giving greater certainty of success.—*Edinburgh Monthly Journal of Medical Science.*

Dislocation of the Thumb.—At the last meeting of the Hunterian Society on the 9th of June, Mr. Adams directed the attention of the members to a novel proceeding which he had successfully employed at the London Hospital in the reduction of a dislocation backwards of the first phalanx of the thumb. In this case much extension in the ordinary manner had been

employed, but without relief. The method consisted in drawing backwards, or extending, as far as possible, the thumb, so as to incline the back of the first and second phalanx on the back of the metacarpal bone; by this the proximal end of the first bone was more closely approximated to the distal end of the metacarpal bone. The thumb was then gradually brought forwards over the end of the metacarpal bone, at the same time that the end of the first phalanx was firmly held in its position. By this means the thumb itself becomes converted into a considerable lever, the fulcrum of which is the proximal end of the first phalanx: the reduction was accomplished with great ease.—*Ibid.*

Tetanus, cured by section of the nerve supplying the part. M. Pecchioli has reported, in the Bulletin of Medical Science of Milan, two cases in which he cured tetanus by section of the nerve supplying the part. M. P. says that he had before proposed this operation to a patient, who, however, was unwilling to submit to it and died of the disease. Soon after he met with a well marked case in a young peasant, aged 17. The tetanus was caused by a lacerated wound of the great toe, penetrating the metatarso-phalangean joint; it had continued twenty-four hours. I made, says M. P., an incision eight lines in length, at the point where the saphena passes over the first cuneiform, after having sent a twig to the back of the foot; then I plunged the instrument quite to the bone, to secure the complete division of the nerve. The pain in the leg and foot ceased immediately, and soon after the spasmodic contractions disappeared to return to more. The other case is similar. The editor of the Parisian Medical Gazette commends this operation, and suggests that the section of the nerve could best be made beneath the skin, as in tenotomy. The operation would in that way be a very trifling one, and might be tried in all cases. We shall do so in the first case that offers. *N. Y. Med. Gaz.*

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ENDEMIC DYSENTERY.

It seems that, in particular localities of the West, this disease has prevailed during the past summer, while large intervening districts have been nearly exempt. In the former it has often been fatal, especially to children. We hope our brethren where it prevailed, will favor us with histories of it for publication, which shall embrace an account of any thing in the condition of the earth, air, and water, which is not present every summer; together with notices of its pathological phenomena, and the treatment found by them to be most efficacious. D.

BOARD OF HEALTH OF NEW ORLEANS.

The whole of the Mississippi Valley is interested in the sanatory regulations of New Orleans, as every neighborhood has its representatives in that city, from the end of autumn till the beginning of sum-

mer. It is remarkable, that till July last, the city of strangers should not have had an organized Board of Health. We are indebted to a friend for a series of newspapers, in which the arrangement for establishing such a Board, and some of its first proceedings are published. It appears from one of them, that to Dr. E. H. Barton, late a professor in the Medical College of Louisiana, the city is chiefly indebted for this important institution—of which, appropriately, he has been made the president. The ordinance establishing the Board was passed on the 9th of June. From the 12th of May to the 1st of December it is required to publish weekly statements of the number of deaths, with the age, sex, color, vocation, nativity, &c. of each individual; and from the 1st of December to the end of April, monthly reports of the same kind. When there is an epidemic disease, daily reports are to be made. We have before us some specimens of these reports, and think they promise to put us in possession of valuable information, on the statistics of disease in our great southern metropolis. In the opinion of the General Council of New Orleans, that city, with the exception of its summer and autumnal fevers, is as healthy, or even healthier than any other city in the Union; a conclusion which we are not disposed to controvert; but the new regulations, in a few years, will afford data for a correct decision. We congratulate Professor Barton on the successful result of his labors, and hope he will persevere. D.

STATE MEDICAL SOCIETY OF KENTUCKY.

We take the liberty of calling the attention of our readers in this state, to the first annual meeting of this society in January next. Let it not only be well attended, but prolific in good fruits. Reports, full and scientific, should be made on all our summer and autumnal diseases, by observing in different parts of the state; the reading and discussion of which could not fail to be highly instructive. Such a meeting at the commencement would give an impetus to the society, that would carry it on to a higher respectability, than many similar societies have attained. Every county of the state, will, we trust, be represented in the meeting. All should come who are able to leave

home—those who can teach, prepared to do so; those who cannot, prepared to listen and be taught. But we should not encourage *elementary* instruction or *popular* harangues. The study of our endemic diseases, in their causes, peculiarities and treatment, is the legitimate object of the society; and should be steadily kept in view. Those who intend to read papers, ought not to defer the preparation of them to the last hour; but, by engaging in it at an early period, give to them the accuracy, fullness and finish, which are equally due to the society, the profession, and themselves. No one should preface his paper with an apology for any other imperfection, than the want of unattainable facts. D.

COUP DE SOLEIL, OR STROKE OF THE SUN.

We observe by the newspapers that Dr. Dowler of New Orleans, formerly of the state of Ohio, has dissected the bodies of two or three persons, who had died from exposure to the sun, and found the lungs, not the brain apoplectic. We write this paragraph, for the purpose of calling attention to cases of this kind. Their pathology has not been properly investigated, and we hope that such of our readers, as may have the opportunity, will not fail to note the symptoms and morbid appearances after death. D.

ABSENCE OF LACTEAL SECRETION AFTER PARTURITION.

Dr. W. S. Sutton of Georgetown, Ky., has communicated to us the following fact: There is now in that town a lady 60 years of age, who bore and reared eight children, without her breasts discharging a drop of milk after the birth of any one of them. The glands, when she was confined with a part of them, became somewhat swollen, but no milk flowed out. She never, at any period of her life, had a nipple on either breast. D.

FISTULA IN ANO. BY M. L. LINTON.

I flatter myself that the present communication, though a very brief one, will prove serviceable, not only to the profession, but to the public in general. Its design is to give notoriety to some important facts in regard to the treatment of *Fistula in Ano*—a disease, the treatment of which is as simple as any other in surgery, when the knife is to be used. But the horror which most persons have of cutting instruments, has very naturally led to the searching out and substituting of various other methods, amongst which is that by the ligature, which will do away with the necessity of the knife in nearly all if not all cases.

I do not say that it is better than the knife, but the truth is, that patients generally prefer it; and the surgeon is bound to regard their prejudices, when it can be done with safety.

We have lately treated two cases in this manner with perfect success.

The first was a negro woman, aged 25 years. She had been afflicted with the disease between six and seven years; and her health was considerably impaired. The fistula was complete. I introduced through the external orifice of the fistulous canal, by means of a slippery elm bougie, one end of a common flaxen cord, which I brought out at the end of the anus. The part to be cut through was thus included in the ligature, which I tied in a manner that I cannot very easily describe. No matter. The twisting of the two ends of the ligature, which should be well waxed, or tying them in what is called the single bow knot, answers as well as any other *can*.

The treatment from this time until a perfect cure was effected—the space of four weeks—consisted in tightening the cord every day or every other day—introducing, occasionally, into the fistulous canal a slippery elm bougie dipped in a solution of nitrate of silver, four grains to the ounce of water, keeping the bowels loose, and allaying irritation by an occasional opiate.

I attended this patient but little as she resided three miles from town—but her case was well and faithfully managed by my friend and pupil, J. R. Hughes, whose intelligence, industry, and zeal, justify hopes of future usefulness.

The second patient was a man upwards of thirty years of age. This case presented itself shortly after the termination of the foregoing.

My colleague, Dr. Polin, introduced a common silk thread, and proceeding in other respects as has already been described, until the cure was nearly effected, when the patient becoming very *impatient* the Doctor brought the knife to the aid of the ligature, though the latter would have done the work in a few more days.

As a general rule about three weeks are sufficient to effect a cure, in almost every case; for in the former of those just detailed, the fistula opened externally three inches from the anus; and in the latter the internal orifice was nearly three inches above the sphincter.

The fistula heals "pari passu" with the progress of the ligature, so that when the part is cut through the cure is completed. The use of the caustic is to destroy the deceased and indurated parietes of the fistulous canal. This may be left off after the first week, or it may be used for a week or so before the ligature is applied. In order that this mode of operating may produce but little pain and irritation, the ligature should be tightened frequently, and but *very little at each time*.

I have already said that I would not assert the superiority of the system over the knife; but it is well known that patients generally prefer it, and will follow a quack as long as they can hear of one who promises to cure without cutting.

The operation by ligature is as old as surgery itself. It is alluded to by Hippocrates—was in frequent use in the time of Celsus, and employed by surgeons in all ages from that to the present—some using wires of the various metals, some horse-hair, and some a common thread; yet this old operation is now being palmed upon the public as something entirely *new and secret*, by a Dr. Bodenhamer, of Paris, Ky. True he cures many of his cases, but then they might be equally well cured without the fatigue of a journey to Paris, and for a fee a great deal less than two hundred dollars. Any country physician or student, with the directions here given, can perform the operation as well as any one else.

I assert that this is substantially the operation of Bodenhamer on the authority of his own patients; and my only apology for making the communication is, that I am a friend to mankind, and a bitter enemy to nostrums and nostrum-mongers.

Springfield Ky, 1841.

A SCIENTIFIC HOAX.

A shower of "*flesh and blood*" was reported to have refreshed the "cedars of Lebanon," in Wilson county, Tennessee, about the middle of last August. Scientific gentlemen from a distance visited the spot where this singular shower descended, and reported, that the matter was veritable fat and muscle, such as might once have made a part of the living body of a hog. The story of the shower rested upon the testimony of some negroes who were at work in a tobacco field, and stated, that they saw the "red cloud" from which it fell "passing rapidly towards the West." The negroes, we have been informed, have since confessed, that this "flesh and blood" storm, like the enchantment of Dulcinea, by Sancho Panza, was a thing got up for their own amusement. The process was to scatter the putrefying carcass of a hog over the tobacco patch, particles of which, in the laboratory of our learned and excellent friend, Prof. Troost, were easily enough recognized as animal. Y.

MEDICAL JOURNALS.

We sometimes meet with the complaint in the papers of our contemporaries, that the Medical journals of the United States are too numerous. It may be that there are more than are well supported, either by the pens or the purses of the profession, but we are sure there are not more than the profession ought to support. What physician can hope to keep pace with the progress of medical science, who is not the reader of at least one medical journal? As well might the politician attempt to dispense with political newspapers. And yet, in every quarter, we meet with practitioners who are not only not subscribers to any journal of medicine, but who are not in the way of ever being one. Without persevering study, it is admitted, no one can become eminent in the medical profession, and nothing is a greater provocation to reading than these periodicals, which, coming to us monthly or quarterly, indicate the improvements and discoveries going forward in medicine in all parts of the world. Y.

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THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

NOVEMBER, 1841.

ART. I.—*Observations on the epidemic Yellow Fever of Natchez, and of the South-west.* By JOHN W. MONETTE, M. D. &c., of Washington, Mississippi.

IN presenting to the medical profession, and to the public generally, the result of my observations and reflections, for nearly twenty years, on the subject of Yellow Fever as it occurs in the south-western portion of the United States, I deem it necessary and proper to premise as follows, viz: that the writer is a graduate of the Medical School of Transylvania in its most flourishing era; when the leading chairs were filled by those eminent men, Professors Dudley, Drake, and Caldwell. As a matter in course, the doctrines taught by them relative to Yellow Fever, were the rule of my faith; and such

as are still entertained by most of the profession, in the middle and south-western portions of the United States. With implicit confidence in their information, judgment, and experience, I adhered to what I believed the true doctrine of Yellow Fever; a doctrine too, which none dare doubt, or attempt to controvert, without risk to his reputation as a man of science and deep medical learning.

By most of the Faculties in our northern and western schools, if we mistake not, it is taught as a settled doctrine, a "*res adjudicata,*" that Yellow Fever is a *high grade of Bilious Fever;* that it is produced locally by local causes, such as a peculiar miasm, or exhalation from certain putrescent matters; and especially from such as constitute ordinary city filth, in alleys, sewers, cellars, and more especially about wharves in commercial cities: that this fever thus generated is confined to the city or district where it originates: that it possesses no communicable properties: or that no exhalation or effusion is disengaged from the body laboring under its influence, which in any manner tends to reproduce that disease in others who are exposed to its influence: that there is no danger of this disease being transported from an infected district or city to one which is healthy; consequently that all quarantine restrictions upon the intercourse and commerce with infected cities and districts, are not only useless, oppressive, inefficient in excluding the disease, but are not sustained by the experience of the enlightened portion of the profession, as consistent with the present state of medical science, in the United States and Europe.

Such were the opinions of the writer; in the comfortable enjoyment of which, no doubt, he would have remained to this day, had not his lot been cast in a region, where it has been his business, from his earliest professional avocations, to see, examine, and treat this disease, under circumstances which compelled him to trace the origin, and causes, and all the circumstances under which it has visited some of the most healthy portions of the United States. Facts have been repeatedly presented which produce the irresistible conviction,

that this disease, in the South, may be transported from one place to another, and there disseminated among a healthy population, so as to produce an epidemic. The circumstances requisite for the certain and speedy dissemination of this disease, are certainly more frequently combined in this latitude than in our northern and middle States. Facts, as observed at Natchez and other southern towns, are such as to confirm, in many instances, the doctrine taught and believed in southern Europe, as well as in some cities of the United States, and especially in those liable to frequent visitations of Yellow Fever.

The first epidemic Yellow Fever which came under our notice, was in 1823. Since that time, circumstances presented by every visitation, have gradually confirmed us in the convictions partially made at that time. Additional facts, and additional reasons have more fully convinced me, that the disease is generally, if not always, imported into Natchez as well as New Orleans, chiefly from Havana and the West Indies. In this belief, for twelve or fifteen years, the writer was almost the only one of the profession in the southwest, who had the courage to declare his sentiments publicly in favor of *importation.* Many who were present at every epidemic, like the great mass of mankind, looked upon the operations of nature, without inquiry, without observation, and without any close analysis of judgment; satisfied to follow blindly in the road laid down by visionary theorists; and which had been generally adopted as *orthodox* and *fashionable.* Ever since the epidemic of 1823, the writer has continued to urge these opinions upon the citizens of Natchez, as well as those of New Orleans; although opposed by the opinions of many excellent physicians, and by the ridicule of those who had nothing better to offer.

Now I have the satisfaction to find that my opinions on this subject are fully sustained, not only by the great body of observing and intelligent citizens, but also by some of the most eminent physicians of this state. Among these are my friends, Dr. McPheeters, and Dr. Davis, the present health-officer of

Natchez. The same opinions are likewise obtaining rapidly in New Orleans, Mobile, and Charleston, S. C. The day is not very remote, when New Orleans and other southern ports may be rendered as exempt from Yellow Fever, as Philadelphia and New York now are. A judicious, timely, and strict quarantine regulation, at each of our southern commercial cities and towns, by excluding this pestilence, will be the wise means of preserving annually hundreds and thousands of lives, and of extending the commerce and prosperity of the people. To the writer, this result would far outweigh all the approbation attainable, by adhering to established opinions, and fashionable errors. We of course expect to encounter the dissent and disapprobation of many distinguished medical men, who have, however, never enjoyed proper opportunities to acquire correct views of this disease in this latitude. I am sustained by many able and learned physicians of the south, when I declare, that our brethren in the great Ohio Valley are greatly mistaken, when they suppose they have seen *true Yellow Fever* north of the mouth of Ohio, unless when rapidly transported in steamboats. But to our subject.

Notwithstanding the great diversity of opinions entertained by medical men, relative to the origin and nature of Yellow Fever miasm, there are a few important facts generally admitted; and from these important deductions are drawn.

It is admitted on all sides that Yellow Fever is the product or effect of a certain deleterious miasm, or poisonous effluvium, operating upon a healthy system unacclimated to its action; that this miasm, malaria, or infection, wherever existing and diffused in the local atmosphere, operates its deleterious influences upon the system, through the medium of the lungs, or by being respired. It is admitted that when this malaria, infection, or miasm, is produced, or exists in any part of a city, in a steady high temperature of autumn, and among a crowded population, it will gradually diffuse itself into the surrounding air, which was previously healthy, and there produce Yellow Fever equally malignant, with that produced by it in the place of its origin. It is also admitted and well known,

that when it diffuses itself through any part of a city, that the whole atmosphere to that extent becomes equally deleterious; and that this deleterious property diffuses itself into houses, rooms, cellars, and avenues, and indeed into every recess, or interstice into which common air can penetrate: that it insinuates itself into the texture of porous articles, in which air largely enters: that ships in port, where Yellow Fever is epidemic, become thoroughly infected, and resist every disinfecting agent except a low temperature, which entirely neutralizes it: that persons from northern climates are peculiarly obnoxious to the influence of this miasm: and that strangers or unacclimated persons passing into an infected district, house, or ship, and there breathing that atmosphere for one or two minutes, or even less, will contract genuine Yellow Fever, and probably die with black vomit. It is also admitted and known, that any infected air, either in open space, in houses, ships, or any other place, becomes entirely deprived of its deleterious and morbific properties, so soon as the temperature is reduced to 32° of Fahrenheit: it is also well known that when a city or any portion is strongly infected, a storm of wind and rain may pass over the city, and even frost may neutralize or destroy all the external infection, while that in closed houses, ship-holds, and other close places, is unchanged until the temperature is reduced to about 32° of Fahrenheit. It must be admitted, that the *removal* of a house or a ship, or any other matter enclosing infected air, does not destroy the infectious virulence, while a uniform temperature is preserved. If this be admitted, it follows of course, that a ship, infected in one port, may sail to another port, and there produce Yellow Fever in those who breathe its contaminated atmosphere. The infected atmosphere of one ship, and especially where several infected ships are contiguous, will and does diffuse itself through the surrounding atmosphere; thus extending the sphere of its morbific influence, in the same manner, as it is admitted that an infected district in a city will finally infect the whole city, where communication is uninterrupted. Besides this process of extension, or of assimi-

lating the surrounding air to its own infectious nature, hundreds of persons, from remote and opposite parts of a city, within a week or ten days, during the time an infected vessel lies in a healthy port, will have direct intercourse with the ship, and thus contract the disease, in the same manner in which persons from the country would do, by visiting an infected city or town. These persons subsequently are attacked with the disease fully developed, in opposite and remote parts of a city or town, where their dwellings happen to stand. In this manner, Yellow Fever, introduced by vessels or steamboats from the wharves, will show itself simultaneously about the wharves and in various remote quarters of the city. Thus those who look for a palpable and visible extension of the disease, like the spread of fire in a city, are at a loss to trace all the cases to one common source.

Again; we know that this *infected air*, confined in a house during the hot sultry weather of August and September, in the latitude of Natchez, will become more virulent than when first confined in that house. This has been fully exemplified during every visitation of Yellow Fever in Natchez. Houses, which were deserted and closed at the beginning of the epidemic, and when the general air was but slightly infected, and when all the inmates of that house were healthy, and continued so in their retreat, have become so strongly infected by being closed, that on being opened, after frost, and after all general appearance of the disease had subsided, they have been fatal to those who have entered, until thoroughly purified by ventilation and frost.

Again; it is well known that during an epidemic visitation at Natchez, equinoctial storms and rains have so swept out the free infection from the streets and open grounds, that the disease for a time appeared to have subsided: but the virulent infection contained in the houses, and which was beyond the influence of the storm and rain, required only a few warm calm days to disseminate itself as widely as ever.

Yellow Fever is indigenous to the tropics, and will not manifest itself epidemically much, if any, beyond the tropics,

unless the infection is introduced from tropical ports in the West Indies. In these islands and other tropical ports of the Gulf of Mexico, Yellow Fever is indigenous, and exists among northern strangers, more or less during the whole year. In these ports it is confined exclusively to the strangers and unacclimated, while those who have been acclimated, or who are natives, are exempt from its influence. Yet as each additional case adds to the virulence of the general infection of a port, a large number of foreigners in port at such time, causing the disease to spread and rage with extraordinary violence, have repeatedly caused the infection to become so unusually virulent, that many of those who were supposed acclimated, have contracted the disease, and even have died.

As a general rule, the natives of tropical cities seldom experience an attack of the disease; and even where it becomes epidemic among them, as it has been occasionally, it assumes such a mitigated form as to present entirely a different aspect from the same disease in strangers.

Hence the inference is sanctioned by every principle of induction, that Yellow Fever as it presents itself among northern strangers in the West Indies, is an *artificial* disease in those ports, a disease which would be altogether unknown among the natives of the West Indies, were it not for the constant influx of northern strangers into their commercial ports. Even in New Orleans this disease would be almost unknown as an epidemic, were the city protected from the hundreds of strangers and European emigrants, who crowd the wharves and vessels from June to October. The disease could not spread without them; it would be like fire without fuel; it would die by its own action. The infection annually introduced into that city from Havana, and other tropical ports, would be comparatively harmless, were it not for the strangers and unacclimated, who serve as fuel, not only to give action and energy to the fire, but likewise to extend its ravages over the city among those who are imperfectly acclimated. The name of "*Stranger's Fever*," by which

it is designated in many tropical ports, indicates its true origin and prevalence.

It is a well established fact, that unacclimated persons, from northern latitudes, who visit an infected port, or city, or who pass through an infected district, or breathe for only a few moments the infected air, will thereby contract Yellow Fever, which will develope itself in five or six days, as a general rule; and often in a less time. The infection is received through the *lungs, by respiration;* and its morbid impression is communicated to the system in the first five minutes of time—and often by the first few respirations. The person who is thus exposed, may travel by steamboat or other conveyance, to remote points, even two or three hundred miles from the point of infection, and there be seized with the disease in its most aggravated form. The distance to which he may travel while the infection is dormant in his system, does not in any wise modify or mitigate the violence of the attack. Thus within a few days, it is possible for twenty or even fifty persons, who have contracted Yellow Fever infection in New Orleans, to be attacked with that disease fatally in Natchez, where all are healthy. This is more likely to occur, as the direct daily intercourse by steamboats between these two points is uninterrupted and extensive. Goods and freight of every kind, and passengers, are continually arriving in great numbers every day; and when the first alarm or declaration, of Yellow Fever as an epidemic in New Orleans, is made public, many strangers and new-comers immediately leave for Natchez and other interior towns. Thus a large supply of infected persons and goods are landed at Natchez within the first three weeks after the disease is epidemic in New Orleans; and a gradual supply is kept up for weeks afterwards. Hence Natchez becomes infected with Yellow Fever within three or four weeks after it has become epidemic in New Orleans. This point and others analogous we shall endeavor to establish as we progress.

The history of every Yellow Fever epidemic in Natchez proves beyond doubt, that those who remain in the city dur-

ing the gradual increase of the pestilential miasm, acquire a partial immunity to its action, by what is termed acclimation; but when this infectious miasm becomes more virulent from concentration, these partially acclimated persons are generally liable to its attack in its most aggravated form. Natives of New Orleans, and those thoroughly acclimated in cities subject to frequent visitations of Yellow Fever, acquire an entire immunity against its influence. With such there is no apprehension of danger from the disease; and the period of Yellow Fever epidemic is to them the most healthy of the whole summer; for they are at that time liable to no other diseases. This remark we have heard repeatedly from the acclimated citizens of New Orleans, declaring that the period of the epidemic is the most healthy of the whole year, for those who are thoroughly acclimated.

We have said that infected air, such as exists in every part, avenue, recess, and interstice of an infected part of a city, becomes more virulent in proportion to its confined condition, in a temperature but little under that of a tropical summer, or between 85° and 90° of Fahrenheit. If the temperature of the confined air be near or above 80° it will rapidly increase in virulence; and more slowly in proportion as it is below 80°. Confined rooms, ship-holds, and bales and boxes of porous goods, retain the infected atmosphere very near at the usual noon-day temperature; consequently it becomes more virulent than the free portion which is by night reduced 25 or 30° below the noon-day temperature. All porous articles as bales of blankets, and feather beds, contain by far the largest portion of their bulk of air. This air is such as that from which they are removed. A bale of blankets compressed until the whole air is expressed will be reduced to less than one third of its original bulk. A feather-bed of ordinary size contains probably 25 lbs. of feathers, in a bed-tick having a capacity for 24 cubic feet of air. The air constitutes the great bulk of the feather-bed; for if the bed be compressed until the whole air is expelled, the bed will be reduced to a solid form, and to a bulk *not exceeding* two cubic feet at most. Thus we should in

an infected feather-bed have about 22 cubic feet of infected air. This can be transported undiluted for any reasonable distance, even 500 miles. The infection carried by such articles in confined vessels becomes more virulent while the temperature is near or above 80°, and constitutes what is known as *fomites*, or the *most virulent infection*. The fomites in such articles becomes much more virulent upon the human system, when, in addition to the free atmospheric infection, from which they have been taken, they have been saturated with the exhalations and secretions, from bodies laboring under Yellow Fever in its most aggravated form. Such *fomites* are active in producing Yellow Fever in those who handle and sleep on those articles. Hence a smaller portion of this grade of infection inhaled, will excite Yellow Fever, than of the free infection. The secretions and exhalations of a body laboring under malignant Yellow Fever, even in a pure air, will so saturate and infect the bed and bedding of the patient, as to be capable of exciting the same disease, and of the same grade, in those who shall weeks afterwards sleep on, or handle them; provided they have been subsequently shut up in a room or confined in a chest. This fact has been repeatedly established in the different visitations of New Orleans and Natchez. Hence it is unsafe for beds, and bedding, to be carried from an infected city into the country and there used: but it is extremely unsafe to carry and use such beds and bedding as were used by patients diseased with Yellow Fever. Cases of this kind will be stated as we progress.

The transportation of a bed or bedding in the confined hold of a ship or steamboat, does not change the nature or virulence of the infected air contained, but it actually becomes more virulent by remaining confined in a close room, under a high temperature. Hence after a trip of three or four days sail under a tropical sun, where the lowest temperature within the vessel is between 88° and 90°, the infected air becomes more virulent than when the vessel was in port, and the danger springing from such source is in the same proportion greater.

An individual, sleeping upon a feather bed, or on other spongy bodies, whether charged with healthy or infected air, necessarily breathes more or less of the air contained. His body presses out of a feather bed, a portion of air equal to the bulk of the body. This air expressed settles around him and is immediately respired; other portions of it are diffused in the contiguous air of the room. Additional portions are successively pressed out by each movement or change of position, and are likewise respired and diffused in the immediate atmosphere. Thus in one night, a healthy individual will press out the greater part of the air contained in the bed on which he sleeps. If that air be infected, he will unconsciously have been breathing more or less of the strongest infection during the night. Should this individual be travelling, he may be attacked with malignant fever several days afterwards, and possibly more than a hundred miles from the place where he received the infection. Such are the circumstances of cases, sometimes adduced by those of contracted observation, to prove that Yellow Fever is sporadic, and of diverse local origins. The disease is seen, and its character is incontestible; but the source from whence it was derived is either forgotten or entirely overlooked.

In this manner, doubtless, are produced many of the cases called sporadic, in the vicinity of infected towns, ships, and houses. Tales of this kind can be passed off currently upon northern men, where genuine Yellow Fever is *scarcely known:* they can also be imposed upon enlightened medical men who have never seen this disease, and who are tied down to received opinions, and pre-conceived theories. To those who live in or near the tropical regions, where Yellow Fever is no stranger, and where all its habits, customs, and characteristics are familiar, these theories pass as an idle dream.

Thus far it matters not from what source, or in what manner, the poison of the Yellow Fever is produced; nor in what manner its effects are produced on the system. We will call it *infection;* and we will admit, for sake of argument, that it is produced from any source which may suit the fancy of the

reader. All admit that the local atmosphere of certain places becomes infected with this morbific poison, and that Yellow Fever is the result; that the local atmosphere may be partially, or more strongly charged with this infection, producing the proper Yellow Fever malaria.

As to the nature, composition, and properties of this malaria or poison of Yellow Fever, we know nothing, except from its effects upon the human system. Of its qualities and *modus operandi* upon the human system, we know only by induction: from facts and repeated observation where it prevails, we deduce some of the general laws of its operation.

Its effects upon the healthy system in the production of its peculiar disease, according to Baron Larrey,* is through the medium of the lungs. This view of its operation upon the system is sustained by many distinguished men, who have been familiar with the Yellow Fever in all its grades, in the West Indies as well as in the United States. My friend, Dr. Cartwright of Natchez, very correctly locates its primary action upon the pulmonary tissues, being inhaled with the common air in respiration. He conceives that its morbific influence upon the system is conveyed from the lungs, through the medium of the ganglionic system of nerves; and that the disturbance of all the organs and functions of animal and organic life, consequent, constitutes Yellow Fever.† We consider the point established beyond controversy, that Yellow Fever is communicated chiefly, if not entirely, through the air respired; and not by any contact, or any palpable matter otherwise applied.

One point most unsettled in relation to Yellow Fever is, whether bodies laboring under Yellow Fever are capable of eliminating, or throwing off any exhalation, or effluvium, possessing or deriving peculiar morbific properties. Yet the general clinical regimen, and precautionary measures inculcated, even by those who deny any contagious properties, tend strongly to convince the unprejudiced observer, that *all par-*

*See Quarterly Journal of Foreign Med. for April, 1832.

†See Med. Recorder, vol. 9, p. 37-8-9, &c.

ties do admit the principle; although some deny the fact. The general admission of those who disclaim prejudice on either hand is, that when Yellow Fever makes its appearance as an epidemic, in any port, city, or town, each and every additional case tends still further to contaminate the air; in other words, to increase the infection which is abroad. Those who have been frequently conversant with this disease in the southern ports and towns of the United States, and in the West Indies, untrammelled by prejudice or theory, and governed by their own repeated observation, admit this fact without hesitation or argument. Those who are altogether unacquainted with the visitations of this disease should hardly hazard a contrary opinion on the subject.

If one body, or any number of bodies, laboring under this disease, in the midst of a dense population, can possibly have any agency or influence in rendering more virulent an atmosphere already infected, it must be by imparting to it some morbific property. It certainly can not proceed from *diminishing* the amount of infection already abroad. Each portion of the malaria consumed by each individual in developing a case of the disease, must certainly diminish the general amount. The multiplication of cases should therefore diminish instead of increasing the virulence of the infection, if some morbific influence were not super-added from each new case. Each new case therefore becomes a new source of atmospheric contamination. If any thing be imparted to the local atmosphere from a case of Yellow Fever, it must be thrown off in gaseous and invisible form from the body; either by respiratory exhalation, or by insensible perspiration from the skin. Observation and experience have fully shown that it is not from any palpable excretion from the alimentary canal, or from any peculiar palpable virus.

The skin and lungs are two of the greatest emunctories of the human system, and carry off in a gaseous form more fluids than all the other excretories together. The skin alone throws off by insensible perspiration, in form of gas or vapor, about five pounds of fluid in twenty-four hours. This in form of va-

pour will occupy a space in the free air equal to the dimensions of a large room, or equal to the entire size of the largest balloon.*

In the period of twenty-four hours the amount of fluid thrown off from the lungs in a gaseous form, is at least thirty *per cent* greater. Respiration throws off into the air a large amount of contaminating affluvia, and tends to deprive the free air of its healthy properties, even while the body is in a state of perfect health. The quantity of gaseous fluids exhaled from each of these emunctories in disease, such as ardent Yellow Fever cannot be less than in health. Consequently every individual of adult age, laboring under Yellow Fever, throws off into the surrounding atmosphere a volume of vapour equal to at least five thousand cubic feet every twenty-four hours. This is unquestionably morbific to a certain extent, and to that vitiates or contaminates the free air. To what extent then must the atmosphere of a house or vessel be contaminated when there are several cases of malignant Yellow Fever, in a comparatively circumscribed and confined atmosphere? Independently of this contamination, the air is still further vitiated by the change which respiration effects in the properties and constitutional elements of the atmosphere respired.

A portion of the exhalations thrown off by these two great emunctories, in disease, is condensed and absorbed by the bed and bedding used by the patient; the remainder is diffused into the surrounding atmosphere. That portion diffused in the free air becomes dilute, and partially loses its virulence; while that confined in the bed and clothing acquires an increased degree of virulence. If this is not the case why do non-contagionists enjoin strict cleanliness and free ventilation, about Yellow Fever patients?

We are told that those exhalations and secretions are morbific in a general way; but do not produce Yellow Fever especially. Do they fear the production of ordinary disease

*See principles of expansion by evolving latent heat, by Prof. Espy on storms.

more than Yellow Fever from these unhealthy effluvia? If they have any tendency to produce disease at all, it is surely none other than Yellow Fever; the identical disease from which it is eliminated.

We are not prepared to prove at what stage or period of Yellow Fever the morbific effluvia are eliminated, which are most active in producing this disease in healthy individuals. Baron Larrey, with much plausibility, supposes that there is a particular period of Yellow Fever, when the infectious effluvium from the body is more virulent, or is thrown off in greater quantities. He supposes that this period of the disease is of but short duration, after which the effluvia from the body are much less virulent. In this particular, if Yellow Fever presents any analogy to other contagious, or exanthematic fevers, the most contagious or infectious stage must be during the first two days; or while the excitement is active and the febrile *erethem* is upon the surface. After the excitement subsides, and the erethem retires, the activity of the morbific effluvia begins to decline.* The palpable excretions, such as the urine, fæces, and black-vomit discharge are entirely harmless as a cause of Yellow Fever in those who handle or taste them; and equally so when taken into the stomach.

But it is contended by some that the exhalations and excretions of persons laboring under any and every disease, in a confined air, are to a certain extent morbific; and that in this respect, Yellow Fever is at most only such in a higher degree. This is a false argument. The sickly effluvia, and the palpable filth which might accumulate in a close chamber, would certainly offend the senses and produce some disturbance of the functions of organic life. But if this disturbance were uniformly and invariably of the same grade and variety of disease as that from which those offensive excretions emanated, it would be called contagion or infection by the most sceptical theorist.

Does any non-contagionist enjoin the free ventilation and strict cleanliness in Yellow Fever rooms and wards, for fear

*See Townsend on Yellow Fever, of New York, p. 288.

those offensive effluvia may produce in others, remittent fever, rheumatism, or gout, measles, or anthrax? No: they apprehend an aggravation of the Yellow Fever malaria, which is to reproduce in others the *identical disease* of Yellow Fever, and no other. According to their prejudices, this may not be contagion, but it bears a striking analogy. We doubt not that *all epidemics*, to a certain extent, are contagious, or that an accumulation of cases in any one house or street, tends greatly to increase the virulence of the disease in that quarter, as well as its more rapid extension.

There are two kinds of morbific matter eliminated from bodies diseased, and which tend to reproduce the same disease in others. This matter is called contagion or infection. The one is a palpable matter of secretion; the other is an invisible gaseous exhalation. Some diseases throw off one kind of infection and some the other. Others, such as small pox, plague, and malignant erysipelas, throw off both kinds of infection: others again, as syphilis and the vaccine pock, are communicated only by a palpable virus. Of the gaseous infections, some are so mild as scarcely to be estimated, especially in unconfined air. Others are more active, but still are greatly diluted or neutralized by free pure air; such are yellow fever, cholera, typhus gravior, and some others. Some, such as small-pox, throw off such a virulent and subtle effluvium, as to prove infectious under nearly all circumstances, to the distance of a few feet from the patient, and in almost all degrees of temperature. Some diseases disseminate their infectious effluvia in hot sultry air; others in a cool damp atmosphere; others in an atmosphere charged with human exhalations. Each disease, which is not actively contagious or infectious, under all circumstances of seasons and temperature, becomes so under certain peculiar circumstances. Of this class is Yellow Fever, which gives off an effluvium which *becomes* morbific or infectious under the proper circumstances.

In relation to Yellow Fever, the great error of both parties, is *ultraism*. The advocate for contagion or personal infection seems to believe it impossible to originate or disseminate

the disease in any other manner. His opponent, equally scrupulous of consistency, believes that certain circumstances independent of personal infection, do sometimes originate Yellow Fever; and therefore the disease, when produced, must be entirely free from any contagious or infectious properties. Upon this last assumption, we may ask, whence did the first case of small-pox originate? Nature is not parsimonious in her operations for the production of disease, any more than in the other exhibitions of her power. A disease may certainly originate from some peculiar exciting circumstances, independent of personal contagion; and still, when once produced, it may possess properties more or less infectious. The first case of contagious disease certainly did not originate from personal contagion, but entirely independent of it. The same causes may still produce similar effects.

If a disease possess the properties of reproduction, even once in a hundred cases, and under the most favorable circumstances, it certainly has some claims to be acknowledged an infectious or contagious disease. The contagion or infection is specific, because in all cases it produces the same disease as that from which the infection emanated. A disease which spreads by personal infection alone, makes but slow advances through any community, and generally from one individual to another in regular and slow succession. Infectious diseases, assuming an epidemic character, proceeding from an infected local atmosphere, attack a number of individuals almost simultaneously, or in close and irregular succession. Yellow Fever proceeds in the latter mode; and each case tends to extend the limit of the first or local source of infection, until checked by frost, or by a strict non-intercourse with the healthy population. Small pox does not spread in a city in this rapid and irregular manner.

Dr. Rush is the great father of the doctrine of the local origin of Yellow Fever, from putrescent matters, and from city filth. The doctrine taught by Dr. Rush on this subject, enforced and promulgated as it was by his popularity, talents, and industry, has doubtless been the destruction of thou-

sands. Had it not been for his influence in the medical community of the United States, our northern sea-ports would not have been so long subject to the pestilential visitations of Yellow Fever. New York, Philadelphia, and Boston, and other ports of less note, would have protected their citizens by a judicious quarantine, at least twenty years sooner than they did. The southern ports, still acknowledging a vassalage to his authority, and to his arbitrary dictation, through his disciples, to this day immolate hundreds and thousands of victims annually upon the altar of a blind incredulity. But the dawn of their emancipation begins to shadow forth a more discriminating era. A short time yet, and Yellow Fever shall be excluded from Charleston, New Orleans, and all the southwestern ports of the United States. Then this moloch, set up by Dr. Rush, shall no longer devour its living hecatombs of innocent people for its autumnal repast.

At the time when Dr. Rush sought to establish his theory of a local and domestic origin of Yellow Fever, in contradistinction to that which ascribed it to a foreign source, and to imported infection, people were paralyzed with fear at the horrid ravages made by it in their cities. They believed it communicated *exclusively by personal contagion;* and under this conviction the sick were abandoned to their fate, and deserted by friends, and attendants, to perish alone, in neglected despair. None but the strongest of all human ties, those of parental or conjugal love, were able to keep the friends and attendants where certain death seemed to lay in wait for them. Like men in the plague, the plague-spot was a signal for hopeless despair and solitary death.

Feelings of humanity prompted that good man to combat the belief which seemed to sever all the bonds of friendship, and abandoned the sick to their fate. In his zeal for philanthropy, he plunged into the opposite extreme, and was instrumental in throwing off all means of precaution, and to expose whole cities to be ravaged by the worst of plagues. He exerted every influence and urged every argument to convince the people, that the Yellow Fever, with all its horrors, was

free from any contagious or infectious properties; that unacclimated persons, with perfect impunity, might occupy the rooms, beds, and clothes of bodies laboring under this fatal disease, while continually exhaling its pestiferous effluvia. He endeavored to show that the exhalations and excretions from Yellow Fever patients were as free from morbific agency, as those from the simplest intermittent.

If he had stopt here his name might still be blessed by many; but he hesitated not to blind the popular judgment, and induce them to adopt a system of police, calculated in practice, to introduce the pestilence into the ports almost every year. He was indefatigable in his exertions to convince the people that the disease was exclusively of local origin, within their cities, and from causes entirely under their control; that there was no such thing as an infected ship, coming from an infected port; that when infection and death began to spread about the wharves, vessels, and those having intercourse with them, all proceeded from some small source of putrescent matter, to some rotten potatoes, coffee, or some other equally inoffensive substance, which may have been thrown or spilt about the wharves. In this he presumed upon their want of discrimination in such subjects, where he knew the people could not judge. Hence setting aside what appeared to them hypothesis and speculation, he pointed them to such matters as would strike the grosser senses of sight and smell; to city filth in alleys, lanes, and sewers; to putrid animal and vegetable matters;* things too, by the by, which had existed in an equal degree a thousand times before, in the midst of uninterrupted health.

It is now time to arrive nearer the goal of truth; and to point out where truth and error meet; to lay aside the trammels of authority, and the prejudices of education, that we may view things clearly, patiently, and with proper discrimination. To this end we desire to contribute our feeble aid, and hope we shall be heard with patience, and with a desire

*See Rush's Works, vol. 2; edition of 1815; Yellow Fever of 1793; Medical Inquiries.

more to arrive at *truth*, than to sustain any theory or preconceived doctrine.

Notwithstanding the zeal with which Dr. Rush labored to establish his theory of the domestic origin of Yellow Fever in our commercial cities, he has also left on record proof and admissions of all that we contend for, or wish to establish. Although he contends that it is of local origin, and is not contagious, yet he clearly admits that under *certain circumstances* it does reproduce itself; or will spread in *impure* or *miasmatic* air. This air is rendered impure or miasmatic, by certain states of vegetable and animal putrefaction in certain states of the weather. This fact we also admit; but deny any agency to the animal or vegetable putrescency.

Dr. Rush says, "Yellow Fever is not contagious in its simple state, and spreads exclusively by means of exhalations from putrid matters, which are diffused in the air. That it does not spread in the country, when carried thither, from cities in the United States; that it does not spread in Yellow Fever hospitals, where they are situated beyond the influence of the impure air in which it is generated; * * * that it generally requires the co-operation of an *exciting* cause, with miasmata to produce it."*

Yet he admits in another place, that Yellow Fever exhalations and secretions, accumulating in close filthy rooms, even in the country, will become infectious. He says, "I have heard of *two or three instances*, in which Yellow Fever was propagated by these means *in the country*, remote from the place where it originated, as well as from every external source of *putrid exhalation*."† If a disease assume a contagious character only *occasionally*, it should be ranked as a contagious disease.

He also admits that Yellow Fever may be contracted by "a person *sleeping in the sheets, or upon a bed impregnated with the sweats and other excretions*, or by being exposed to the smell (breathing,) of foul linen, or *other* clothing of per-

*See Medical Repository, vol. 6, p. 156, &c.
†Ibid. p. 157.

sons who had the Yellow Fever."* Also, "that it was once once produced in Philadelphia *from the effluvia from* a chest of unwashed clothes, which belonged to one of our citizens who had died with it in Barbadoes; but it extended no further than to the person who opened the chest."

Now what was this if it were not contagion, or infection, created from a patient laboring under disease? a contagion, too, which could remain enclosed in a trunk, in a healthy ship, and in this manner be transported unimpaired in virulence, for 2000 miles? It was a *specific* contagion, producing the *same disease* in a healthy system, as that from which it was eliminated. Dr. Rush also admits that occurrences of this kind would be more frequent, were it not for "the *superstitious dread of contagion*, which has generally produced *great care*, not only in washing sheets and clothes, and airing beds supposed to be infected, but frequently the total destruction of them by fire."† Thus, according to Dr. Rush's admission, Yellow Fever would be imported much more frequently were it not for that "*superstitious dread*" which prompts to every precaution necessary for its exclusion. Strange that he should have labored to prove that this disease is produced exclusively by putrid effluvia about wharves, &c.

At the same time, the united talent and experience of the whole medical profession of the United States and Europe was in direct contradiction to the doctrine of the local origin of Yellow Fever, from filth and putrid effluvia. The College of Physicians, of Philadelphia, in reply to a call from the Governor of the State of Pennsylvania, after mature deliberation, made the following report in 1793, viz:

"No instance has *ever occurred*, of the disease called *Yellow Fever, having been generated* in this city, or in any other parts of the United States, as far as we know; but there have been *frequent instances of its having been imported*, not only into this, but into other parts of North America, and prevailing there for a certain period of time. From the rise, progress, and nature of the malignant fever, which began to prevail here

*Med. Repos. vol. 6, p. 156, &c.
†Ibid.

about the beginning of last August, and extended itself gradually over a great part of the city, we are of opinion that *this disease was imported into Philadelphia* by some of the vessels, which arrived in port after the middle of July. In this opinion we are further confirmed by various accounts received from unquestionable authorities."

Signed by order of the College of Physicians.

JOHN REDMAN, *President.*

November 26, 1793.

This opinion of the College of Physicians was sustained by the great body of the medical faculty in the city, as well as in the United States. Dr. Rush and a few others contended that the whole epidemic of 1793 originated in a lot of spoiled coffee!!* Subsequent epidemics he ascribed to putrid hides and potatoes.

Dr. Litton, an eminent physician and contemporary of Dr. Rush, speaking of the Yellow Fever which prevailed at Wilmington, Delaware, in August, 1798, says: "*No one doubted its having been brought from Philadelphia,* in the infectious bad air in boats and shallops," &c.; also, he says, it began about the water's edge, and spread gradually up to the highest streets; having first appeared in August it became epidemic by the middle of September.†

Relative to the same epidemic, Dr. Geo. Monroe says, it was clearly traced to an infected vessel from Philadelphia, then at the wharf; and that the portion of the town near the wharf suffered most severely.‡ The temperature of the atmosphere, and the state of the season being suitable for the propagation of the disease, it soon assumed an epidemic character. Dr. Rush himself admits, that when the atmosphere is highly infectious, or "charged with the miasmatic effluvia, or 'pestilential exhalations,' *a single case of Yellow Fever will excite* it in a whole family."§

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*See Med. Inquiries, Yellow Fever of 1793,
†See Med. Repos. vol. 3, p. 128-30.
‡Ibid. p. 136, &c.
§Med. Repos. vol. 6, p. 160.

These facts are not adduced by these men as evidence of *personal contagion* in Yellow Fever; but as showing clearly that the contaminated, or infected air from the holds of ships, may be so diffused about a wharf as to produce Yellow Fever in those who breathe it, after residing in a miasmatic atmosphere. Although they do not admit that there is any peculiar contagion, or infection, contained in such vessels; yet they believe it is an impure, or infectious air, capable of producing Yellow Fever in those who breathe it, and of diffusing itself with morbific virulence in the surrounding air, when the latter is contaminated with miasmatic exhalations; but that in a pure atmosphere, free from these miasmatic exhalations, it is innocent.* This admits a great principle, which is equally important, as if it admitted direct infection or contagion. It admits that from whatever cause, a ship may introduce Yellow Fever from one port into another. Yet they contend, that in a healthy pure atmosphere, this infection will not spread so as to bring on an epidemic; that only those who go on board such vessel are liable to contract disease from it; and that those who are thus attacked can communicate no disease to others unless the air is highly contaminated by miasmatic exhalations.

This contaminated state of the air, which is said to be rerequisite for the dissemination of Yellow Fever, presents precisely the condition we deem requisite for its propagation as an epidemic. But Dr. Rush and others, compelled to admit the truth and force of these facts, endeavor to evade the true inference, by ascribing all the morbific influence and Yellow Fever predisposition, to a previous state of the local atmosphere; leaving to the malaria from the vessels, only the agency of an *exciting cause.* In this view of the case, the seeds of this peculiar disease had been previously imbibed, and continued in a dormant state, until the *exciting* cause of miasm warmed them into life. This would place the infectious air or malaria of ships, which is known to produce Yellow Fever in precisely the same relative agency as fatigue, exposure, o.

*Med. Repository, vol. 3, p. 200.

dissipation, in all its forms. On this principle the disease excited into action, should be as various as are the forms of disease induced by such causes.

The followers of Dr. Rush have greatly extended his discoveries into the mysteries of Yellow Fever miasm. Since his time, it has been discovered that, not only putrescent coffee, Irish potatoes, and city filth, which offend the senses, but that numerous other sources are equally active in producing epidemic Yellow Fever. Although all experience and authority concur in admitting that Yellow Fever infection, when prevalent, is an invisible, inodorous, and aerial poison, which cannot be perceived by any of the senses, nor be detected by any chemical analysis, yet the followers of Dr. Rush look exclusively to the *fœtor* of *putrefaction*. When Yellow Fever makes its appearance in a city, or in any port, a search is immediately undertaken for the source of the infectious miasm. The first matters in a state of decomposition, whether animal or vegetable, are at once hailed as the fountain and source of all the pestilential miasm. If neither of these be found in the proper direction, some filth nearly allied to a combination of both are sought and most generally found!!

This continues to be the case, notwithstanding these fœtid effluvia have been tested experimentally, and found to contain no principle actively deleterious to health. Epidemic Yellow Fever is still traced to matters which are offensive to the *olfactories*, notwithstanding all experience proves that the most active infection of Yellow Fever cannot be distinguished by any of the senses from common air. Instead of pursuing the dictates of reason and experience, these inquirers are too frequently "*led by the nose;*" and when nothing else presents of sufficient importance, all the pestilence is traced to a filthy back-yard, a wet sewer, a dead rat, or a rotten Irish potatoe.

Others guided in their observations by a sincere desire to arrive at truth, have been indefatigable in their efforts to discover the true source of this mysterious poison. The medical profession have been unremitting in their exertions to detect

the origin and nature of this poison. But all theories which trace its source in the United States, to animal or vegetable putrefaction, or to both jointly, must be abandoned, as inapplicable to our southern ports at least. In many cases acute inquirers have supposed they had traced the monster to his den; but when they have attempted to place the shackles upon him, he has vanished. Others again, repudiating the putrefactive origin, have sought other sources widely different from either. Knowing it to be an invisible gaseous poison, beyond the test of any of the senses, they have directed their inquiries to atmospheric causes. At one time it has been traced to a long continuance of high temperature at certain seasons of the year. At another time it has been traced to great and sudden vicissitudes of weather; such as heat and cold. At other times, to electricity, or to a mysterious epidemic constitution of the atmosphere, without any other definite idea. All these, at times, may have exerted some influence or agency, in modifying the action of the poisonous miasm; but they certainly could not have been the primary active source of the disease. They may have increased or diminished the susceptibility of the system to its action, or so modified that susceptibility, as to cause the morbific effects upon the system, to appear more or less the immediate consequence, from the efficient malaria, or infection.

In the further consideration of this subject, we shall briefly examine the most prominent theories or hypotheses relative to the prime origin of the Yellow Fever epidemic miasm. We shall next show, from American authorities, that Yellow Fever has been repeatedly introduced by infected vessels into the ports of the United States, and that the most malignant epidemics were the consequence. Our views of the manner of introduction and dissemination in the south-western ports, will be fully exemplified in treating of the epidemics of Natchez, as well as in relation to the prevalence of Yellow Fever in many ports and towns of the south-west in the summer and autumn of 1839.

(TO BE CONTINUED.)

ART. II.—*A Case of remarkable and speedy recovery from severe injury of the Spinal Column.* By SOLON BORLAND, M. D., of Memphis, Tenn.

Believing that, in regard to the importance of the structures involved, the severity of the lesion, and rapidity and completeness of restoration, the following case has no parallel on record; that it demonstrates an amount of strength and elasticity in the *medulla spinalis*, not usually supposed to exist; and, for these reasons, deserves the notice of the profession; I submit an account of it for publication.

Early on Sunday morning, 2nd May last, Dr. James R. Christian called, in haste, at my office, and requested me to visit, with him, a man at the flat-boat landing, who had received a severe injury. We reached him about half an hour after the accident.

Case.—Wm. E. Hall, a sailor, aged 20 years, rather below the middle stature, of symmetrical form, stout, muscular, athletic, and in fine health, was seated in a flat-boat, on one of the sills which was about four inches above the level of the floor; his lower limbs were extended and apart, and his body bent forward. The roof of the boat, covered with several tons of wet corn, suddenly fell in, crushing him down, until his face and breast lay pressed upon the floor between his legs. Four or five minutes elapsed before he was extricated.

We found him presenting the symptoms of violent concussion of the brain: entire insensibility, intermittent and slightly stertorous respiration, much froth about the mouth and nostrils, pulse barely perceptible. There was contusion of the nose, and of the upper portion of the back, with extensive and severe ecchymosis of the cheeks, forehead, right side of the neck, and right shoulder; and blood was trickling from the eyes and ears. Proceeding to examine the spine, we found, upon tracing it from its upper and lower extremities, that it was entire, and apparently uninjured, except at the articulation between the *last dorsal* and *first lumbar vertebræ*. The integuments at this point were much contused. The ar-

ticulation was completely torn asunder, all its ligaments ruptured, the spinous process of the superior vertebra broken off, and the articulating surfaces of the two vertebræ nearly two inches apart; two fingers being easily passed between the vertebræ, without encountering any bony resistance. When the patient was turned on his side, the spinal column formed, at this point of separation, an angular projection of about 100 degrees; the prominence of the dorsal region presenting somewhat the proportion and aspect of a camel's hump. Naturally concluding that the case was beyond the reach of human aid, and that in a few hours, at most, death must close the scene, we expressed that opinion, and retired. Imagine our surprise, when, at the expiration of about three hours, we were again called to the patient, and informed that a change for the better had taken place. Accompanied, now, by Dr. Wyatt Christian, we hastened to the boat. We found the patient partially recovered from the cerebral concussion, with restored sensibility, in great pain, tossing violently from side to side, and moving the lower limbs with some force; his pulse still very frequent, and scarcely less feeble than at our first visit, and his skin rather cool. His eyes, now open, were intensely red—the conjunctiva, like clotted blood, at least three lines in thickness, rising round, and encroaching upon, the cornea. Apprehensive, from present appearances, especially from the movements of the lower limbs, that our previous diagnosis might have been hasty and inaccurate, we now proceeded to make another examination of the spine. Its general aspect was unchanged; and upon a minute, careful, and protracted examination, both the Drs. Christian, and myself, could not hesitate to concur in the declaration—that *the spinous process of the last dorsal vertebra was broken off*,—that *the articulation of that vertebra with the first lumbar was completely sundered, and the articulating surfaces of the two bones nearly two inches apart.* It was now evident, however, that the *medulla spinalis* was not ruptured, as we had, at first, supposed; nor, indeed, materially injured; for both sensation and motion were almost perfect below the point of lesion. In

view of all the circumstances, while we admitted their extraordinary nature, and wondered how "the silver cord" had maintained its integrity, it was impossible for us to doubt the accuracy of our present diagnosis; for if it be true, as the ancient adage has it, that "seeing is believing," we felt warranted, by the concurrent evidence of *feeling*, in this case, in according to our impressions the force of positive knowledge. From the extent and severity of the injury our prognosis was still unfavoroble. We gave him ℥i tinct. opi., and directed its repetition if he should be restless at the expiration of an hour; promising to see him again in the evening. During the afternoon, he was carried into town, to more comfortable quarters. The tinct. opi. had been repeated, and he had slept a little. He was then tolerably quiet, but complained of some pain and great thirst; talked a little, but rather incoherently; pulse 125, quick and feeble, but with rather more volume than in the morning; ecchymosis of the face and neck somewhat lessened; eyes still like clots of blood surrounding the deep set cornea; skin cool and moist. Did not examine his spine, as he was lying on it, and suffered great pain on motion. Directed the administration of the opiate, *pro re nata*, until he should be visited again.

May 3rd. Afternoon. Saw him with the Drs. Christian, and Dr. Frayser. Expression of countenance good, ecchymosis very slight, eyes still deeply blood-shot, entire rationality, composed, does not complain of pain except when moved, soreness of all the muscles, moves the lower limbs freely, passed urine this morning, pulse 120 and fuller than on yesterday evening, skin natural. A thorough examination of the spine was not now made, on account of the pain it gave him to be moved and handled. It was found, however, that continued lying on his back, on a hard bed, had nearly straightened the spinal column, and approximated the sundered vertebræ; so that upon the slight examination Dr. Frayser was able to make, he only detected the fracture of the spinous process. The patient was soon placed upon a pallet of quilts on the floor, with instructions to lie constantly on his back.

The treatment, from this time, was quite uniform and simple; consisting of opiate and aperient medicine, *pro re nata*, and a spare farinaceous diet. The patient rapidly improved, suffering little or no febrile reaction, at any time, during his confinement, and sleeping well at night. The ecchymosis, contusion, muscular soreness, and injection of the eyes, speedily disappeared; and all the functions resumed their healthy play. At the end of two weeks he was able to sit up; in a few days more to walk about the room, steadying his steps with a cane; and at the expiration of four weeks he returned, on foot, to the boat, a distance of half a mile.

A few days since, while writing in my office, I heard behind me, the sound of a light, quick, foot-fall. Looking round, I was most agreeably startled at seeing *Hall*. His comely person attired after the neatest summer fashion of a sailor, and his handsome face wreathed in smiles; his eye, now clear and of the brightest blue, sparkling with intelligence, good humor, and perfect health. What a change had come over him! "But yesterday," and he lay at my feet, a crushed and bleeding worm, weltering on the very brink of the grave! Now, he stood before me, erect and sturdy,—as fine a specimen of human organization as the eye of Canova might love to dwell upon. Such, at least, he seemed to my delighted vision.

Only thirty-two days had elapsed since he had received the injury; and he had called to inform me of his entire recovery; and enable me, on a final examination, to close my notes of his case. He bears but slight external traces of the injury: there is a slight displacement, downward, of the fractured spinous process, and inconsiderable thickening, and induration of the muscles and ligaments about the intervertebral articulation which had been so completely severed; but which, now, was to all appearance perfectly approximated, and firmly reunited. Pressure and percussion on the part gave no pain; and the natural power of slight flexion of the spine, in any direction was unimpaired. He had not, of course, yet tried his strength, by lifting, or other violent muscular efforts: and would, prudently, refrain from doing so, for some time to come.

I will not prolong this article by copying the mechanical *rationale*, to which I refer the peculiar form of the lesion, in this case, and which I have appended to my notes. It will naturally suggest itself to any one, who will reflect upon the position Hall occupied at the time of the accident, and the successive changes in that position—presenting different points of contact to the roof of the boat, as the body yielded to its pressure.

So important, do I consider it, to the interest of science, and to the honor and usefulness of the medical profession, that nothing should appear in their annals, as *facts*, which are, merely, believed by those who furnish them; but such only as are fully established; and so extraordinary do I consider this case, that had I been alone in my observations of it, I would not furnish this report, however strict its fidelity to my own impressions. Under circumstances so verging on the marvellous, I would suppress my own unaided conclusions, remain silent, rather than risk, from those who do not know me, the uncharitable imputation of unfaithfulness, or the juster distrust of those who, from a wise and salutary caution, ever question the sufficiency of one witness, whoever he may be, to substantiate an extraordinary occurrence. Sustained, however, as I am, in this case; corroborated as are my views, by those of two other physicians of science and high respectability—one of whom is a practitioner of mature age, enlarged observation, and great experience, I feel warranted in making public that which, to my mind, is as well established as any fact, of the kind, can be by evidence, short of that furnished by dissection.

Memphis, Tenn., June, 1841.

We have read the foregoing account of Hall's case, by Dr. Borland, and find it substantially accordant with our own impressions.

W. CHRISTIAN, M. D.
J. R. CHRISTIAN, M. D.

Memphis, July 29, 1841.

P. S.—I learn from Dr. J. R. Christian, who has seen the patient several weeks since my last examination, that there is more deformity than I have reported—that there is now considerable backward curvature. This has occurred since I examined the case; and is, doubtless, the result of the upright position, and muscular exertions, which have been too constantly maintained, or sought to be maintained, before the ligaments and muscles had entirely recovered their strength. I cautioned the patient against it. S. B.

ART. III.—*Cases of Scrofula cured by the Xanthoxylum Fraxineum.**

Physicians, I believe, agree, that many of their most valuable remedies were discovered and first used by empirics; and hence the necessary conclusion that the use of a remedy by an empiric is only *prima facie* evidence against its efficiency. It is my wish to direct the attention of physicians to a remedy, which appears to have been used by quacks, with at least apparent success, in one of those diseases which appear to be mingled with the springs of life so perfectly, that palliation is attempted rather than relief. I refer to a shrub, the botanical name of which I do not know. I have heard it called Prickly Ash, Prickly Sumach,† and Tear-blanket. It is very common here in the West, and I believe generally known by one of these names. The case in which this remedy was first used within my knowledge, was that of a negro-woman of mine, some fifty years of age. She had been under the care of a physician for some months, without having derived the

*For this communication we are indebted to an unprofessional gentleman in Mississippi of great respectability and intelligence. Full reliance may be placed upon the accuracy of his statements.

†These are not the same plant. The Xanthoxylum Fraxineum is no doubt the one referred to. The Aralia Spinosa, (Prickly Sumach) we incline to think, possesses no medicinal properties. Y.

least benefit from the usual remedies. The ulcers about the throat had become very deep and large. She was very much emaciated. In short, the physician despaired of her wholly, and suggested the propriety of trying the Prickly Ash, saying that he had heard, when a boy, that it had been used successfully in that disease. He tried it, and in a short time all the urgent symptoms were relieved—the ulcers assumed a healthy appearance and healed up perfectly—the only application to them being a little tallow upon a rag. The disease appeared to have been perfectly eradicated in that case, there having been no symptom of its return during three years.

The next case that I saw was a man some 40 years of age —very spare habit. His family was scrofulous. His throat was much scarred when I saw him in 1840. He said, that for some years previous to 1828, he had been much afflicted with scrofula, not only with the ulceration about the jaws, but with violent pain in the chest, inflammation about the eyes; the water from his eyes was so acrid that it excoriated his cheeks. After having, as he expressed it, "spent all his earnings upon the Doctors without being benefitted at all," he, in 1828, applied to a negro-doctor, who gave him the Prickly Ash; he was entirely cured and remained free from scrofula until his death, last spring.

The next case that I saw, was that of a young lady who had had the advice of the most eminent of our Western physicians; indeed, she had been under the care of one of the most eminent for some years, with scarce even a temporary relief. She had entirely despaired of recovery. I recommended the Prickly Ash; in a few weeks all the swelling about the fauces subsided, the gums and cheeks assumed a healthy hue; she was relieved from the violent headachs to which she had been subject for years. She left the country before her cure was completed, and I understand that some of the symptoms have since returned.

I have been thus particular in describing the cases, in order that those who have better opportunities of forming a correct opinion, may decide as to whether there be any hope that this may prove a specific in this horrible disease.

I take a handful of the bark of the stem or root, and boil it in a *new* iron vessel. I let it stand until the iron has blackened the tea. I give it thrice daily—let the patient take as much as the stomach will bear without nausea. A little rhubarb may occasionally be necessary.

I hope that my experience may induce some of the profession to try the remedy. I would suggest the propriety of making an inspissated preparation of the tea after the iron has combined with it, for patients complain very much of the bitter nauseous taste of the tea. P. H. S.

September, 1841.

ART. IV.—*History of a Case of long standing Spinal Irritation, successfully treated.* By JOHN DAWSON, Jr., of Jamestown, Ohio.

Since Teale published his work referring all nervous diseases to irritation of the nervous centres and ganglia of the sympathetic nerve, the profession has had its attention turned towards these localities as very prolific sources of disease. Charmed with the claims of the work, and the light it shed upon a class of diseases imperfectly understood, we naturally ran off on the hobby. Now, however, the medical mind is about becoming balanced again; and although we find a great majority of nervous affections generated and sustained by irritation of the nervous centres, others, it must be confessed, are supported by no such pathological condition.

Conceiving that well marked cases of spinal and ganglionic irritation are entitled to a passing notice, I give you a few notes on one of several which came under my observation.

The case referred to is that of Mr. J. F., 45 years of age. The history he gave me of his case was, that about 8 years ago he suffered from pain in the lumbar region; had also indigestion. These continued with intervals up to September, 1839, at which time I was called to prescribe.

Symptoms.—Many of these were anomalous and cannot be described. The patient would frequently say that his feelings were so miserable and so singular that he could not describe them. He was, nevertheless, a very intelligent farmer. Obvious enough, however, were others. Deep-seated pain in the spinal column, increased by pressure. This developed itself first in the lumbar region, then in the back, and lastly in the neck. Whilst confined to the lumbar region he was afflicted with drawing tingling sensations along the course of the nerves of the inferior extremities, which could be increased at any time by pressure at the origin of these nerves. When the pain occupied the dorsal part of the column the pain was less violent. The patient then complained of difficult breathing, tightness of the epigastrium, and the sensation of a cord being tied around the waist. Occasionally he suffered from spasms and tremors of the arms, which, with the hands, he generally kept in a painfully flexed condition. The distress in the cervical region was violent, and it multiplied greatly the previous symptoms. The head now became the seat of "roaring wind" sensations, cephalalgia, fulness alternating with unnatural emptiness of the encephalon, and a sharp irritableness of the intellectual faculties.

Together with the proper cervical nerves he now evidently suffered from disease of the eighth pair and sympathetic ganglia. Evidence conclusive of this existed in the fact, that the involuntary muscles, the heart, diaphragm, stomach, intestines, and trunks of large arteries, became perverted in their functions, as must necessarily have been the case when the nerves appropriated to these organs become in any manner affected. The heart was so much disturbed in its functions that at one time I supposed it to be organically diseased. Irregular and spasmodic contractions were of every day occurrence. Equally distressed were the thoracic viscera. It seemed here to simulate the *dry asthma* of old writers, producing a sense of smothering and great pulmonary oppression. Seated in the stomach was a sense of distension alternating with emptiness and hunger, when the patient would be compelled

to eat. Very often the stomach secreted quantities of a viscid transparent liquid constituting what is called pyrosis. Perverted function, both in the large and small intestines, tended to produce successively, constipation, diarrhœa, and the secretion of gaseous exhalations.

The above is an outline, and but an outline, of the symptoms presented in this case of disease.

Treatment.—This, from beginning to end, occupied a period of nearly eighteen months. When first called, the first passages were emptied, and recourse had to anti-spasmodics, and medicines calculated to improve the perverted condition of the secretions. Failing entirely to accomplish any thing, attention was now directed to the spine. This consisted successively of all the modes of counter-irritation. We commenced by cupping and blistering; tartar-emetic ointment was then used to produce three or four crops of pustules. These produced in their turn, a mitigation of suffering, but were, on account of inconvenience, abandoned for the use of seatons. Palliatives, anodynes, and anti-spasmodics, were used to allay emergent suffering throughout the whole course of the treatment.

Reflection on this case proves—

1st. That a great variety of symptoms may be produced by a single disease.

2nd. That irritation of the sympathetic nerve, co-operating with a similar affection of the spinal nerves, multiplies in an eminent degree the symptoms, and embarrasses the cure.

3rd. The great indication to be fulfilled, is counter-irritation over the seat of the disorder.

4th. The length of time required to cure is sometimes very great, this patient having been eighteen months under medical treatment.

February, 1841.

ART. V.—*Ice in Cholera Infantum.* By Dr. W. S. LAWRIE, of New Concord, Ky.

In the last number of the Journal I observe a recommendation of *ice* in cholera infantum. It is the first and only instance in which I have seen this article publicly recommended in this truly formidable disease. My attention was directed to its employment while under the tuition of Dr. Jackson, of Jackson, Tenn. In my own practice, it has been uniformly exhibited, when practicable to obtain it; and though my professional experience is limited, in all obstinate cases of this disease, I have not failed to prescribe it with most decided benefit. In the article in the Journal it is stated, that the most disagreeable retching, always troublesome, was almost instantly relieved by administering ice. From personal experience, I am able fully to confirm this affirmation; and I have frequently found, that while almost every thing else exhibited, and particularly in liquid form, was at once ejected, the ice, freely given, seemed to possess the power of allaying the excessive irritability of the stomach, and of alleviating the sufferings of the patient.

Another article from which, in conjunction with ice, much benefit may be derived in cholera infantum, is good port wine. In addition to what ice the child will eat, I am in the habit of using the wine made into sangaree, *freely iced*, giving such quantity as it may be induced to take.

September, 1841.

Bibliographical Notices.

Art. I.—*A Treatise on the Cause of the Disease called by the People Milk Sickness; as it occurs in the Western and Southern States.* By John Simpson Seaton, M. D., of Jefferson County, Ky. Louisville: pp. 49.

In this little work Dr. Seaton has sought to establish the theory, that Trembles and Milk Sickness are caused by arsenic, or, rather, some of its preparations, dissolved in spring-water. His arguments may be reduced to two. 1st. The prevalence of the disease in certain parts of the state of Indiana, where nodules of iron pyrites containing arsenic, are found; 2nd., the resemblance of the symptoms of Milk Sickness to those produced by poisoning with arsenic. Dr. S. has not shown, that the water of the springs where his observations were made, contains arsenic or any other poisonous impregnation; nor even that arsenical pyrites is found in all the localities in which the Milk Sickness occurs. Nor has he traced out an analogy between the symptoms of Milk Sickness, and those from poisoning by other substances, as the preparations of barytes, zinc, copper and lead.

We admit that Milk Sickness *may* arise from arsenic, but such possibility, might be met, by alleging the possibility, that it *might* be produced by many other causes. A theory cannot be established without positive facts, but such facts our author has not yet adduced.

1st. The symptoms which characterize Trembles and Milk

Sickness do not bear a closer resemblance to those occasioned by arsenious acid, than they bear to the symptoms of poisoning by various corrosive, acrid, and narcotico-acrid substances—mineral and vegetable. Guided by the same analogy, those maladies have been ascribed to the salts of lead, and to mushrooms. The truth is, that when the stomach is the seat of a severe irritation, the symptoms which result from it, must necessarily be nearly the same, whatever may be the remote cause.

2nd. Dr. Seaton has found nodules of arsenical pyrites in certain slate and sandstone formations where the Trembles prevail. But in the state of Ohio, the *very same formations are entirely exempt from that disease.* This is the case, from Mount Vernon in the interior of the state, down to Portsmouth, at the juncture of the Scioto river with the Ohio. East of this line to the Muskingum, and beyond, there are coal, slate and sandstone strata, to the exclusion of almost every other rock, but Trembles and Milk Sickness are unknown.

3rd. Our author seems to admit, that the limestone formations are free from arsenical nodules, and affirms that they are equally exempt from those diseases. The former may be true--*the latter is at direct variance with fact.* Those maladies prevail in the valleys of the Kentucky and Licking rivers, in this state; in the valley of White Water, Indiana; and in those of the Great and Little Miamies, and all the western tributaries of the Scioto, in the state of Ohio, though no rock but limestone is found in all those districts.

4th. In this Journal, for March, 1841, we have shown on the highest possible authority, that in certain parts of Ohio, the cultivation of the soil prevents the further occurrence of those diseases, although the water of the springs and ponds of course remains unchanged, as it respects a mineral poison.

5th. We have, also, shown in the same paper, that while the geological constitution of adjoining portions of the district in which our observations were made, is the same, those tracts only, which are level and covered with heavy oak timber, are liable to Trembles and Milk Sickness.

6th. In the same paper, we recorded as an indubitable fact, that of a herd of cattle, a part of which were pastured on a meadow, and part in an adjoining woodland, *while the whole were watered from a common well*, the former remained free from Trembles, but many of the latter died of that disease.

7th. In all parts of the West, where Trembles has prevailed, the disease has constantly diminished with the clearing and cultivation of the country; an effect which could not occur, if it depended on mineral impregnation of the water.

These facts in the absence of *all* positive evidence in favor of the arsenical hypothesis, requires us to reject it till further proof is adduced. Such proof Dr. S. expects to develope by a course of experiments, and we hope that he will make them. That he can destroy both health and life, in man and beast, by the administration of arsenious acid, is quite certain. That the stomach will be the chief seat of the morbid action, is equally certain. But would the disease thus induced, be, *of course*, identical with Milk Sickness and Trembles? We think not. It *might* be, and it might *not*. To settle the identity, several things must be established. *First.*—The symptoms must be the same, in the *particular*, not in the *general*. *Second.*—The morbid appearances after death must be the same. *Third.*—The quantity administered, in a given time, must equal what the animal would take by drinking the water of a spring impregnated with the poison. *Fourth.*—The milk of a cow taking the poison, must produce Trembles in her calf and Milk Sickness in those who drink it. *Fifth.*—The flesh of animals dying under experiment with the Trembles, must, when eaten by dogs, raise the same disease in them. *Lastly.*—A preparation of arsenic must be detected in the water of a spring, which was used by animals before being attacked by the Trembles, and which were so confined that other causes could not have acted then. These various points being settled affirmatively, the arsenical theory would be established. The spring whose waters, as ascertained by the proper tests, are impregnated with salts of arsenic, would then be avoided, and the disease disappear. This avoidance

is all that would result from the discovery, for springs thus empoisoned, could neither be made pure nor their deleterious properties neutralized.

But would not the same remark apply to all the remote causes which have yet been proposed? Undoubtedly. Suppose it should be discovered, that the disease arises from malaria—how could it be prevented, any more than we can prevent bilious fever? Should it be found to arise from mineral exhalations—how could they be arrested? Should a forest-plant be convicted of the mischief—how could it be eradicated, without destroying its associates by the axe and the plough? We cannot but regard the search after the special cause of Trembles and Milk Sickness as promising very little of real utility. The ascertainment of the infested localities should be our great aim. They might then be avoided, or have their surface transformed by the hand of art. In the state of Ohio, the latter has been found infallible; and we know of no fact going to prove that the same process would not be effectual every where.

We cannot refrain from saying that an undue degree of importance has been attached to the disease or diseases we are now considering. The mortality from them is very small, compared with that from many other maladies about the causes of which we make but few inquiries. There can be no doubt that more persons, annually, die in the West, from autumnal fever, than have died of Milk Sickness, from the commencement of its settlement. Even in the districts where the disease is endemic, it does not destroy as many as pleurisy or cholera morbus.

In conclusion we ought to observe, that there are physicians who deny that the disease called Milk Sickness, is a specific malady; and insist that it is nothing more than autumnal fever of a congestive type, attended with great irritability of the stomach. D.

ART. II.—*Physiology and Animal Mechanism.* Philadelphia: 1841: pp. 101.

We have received from the publishers, Turner & Fisher, Philadelphia, a small volume entitled "Physiology and Animal Mechanism," designed for the use of schools and colleges. It is a translation from the French of Milne Edwards and Achille Compte, by Dr. Ruschenberger of the U. S. Navy. We have looked over this little work, and cannot but regard it as preferable to several which have been put forth on the subject of which it treats. From the number of these elementary books, which have been published within the last twelve or fifteen years, it might be supposed that the demand for them has been very great; but such we fear is not the fact. Each has been, to a certain extent, a failure, and its successor has been offered as a work entitled to greater patronage. That none of them have been liberally patronized, is not, perhaps, owing to their defects, so much as the difficulty of introducing a new study into our academies; especially when it presents no *prima facie* claims to utility, in the vulgar acceptation of that term.

We think the medical profession deeply interested in the popular study of physiology; and that they ought, in every way that is practicable, to promote a taste in the people, for this branch of science. Nothing would so effectually repress the encouragement of quackery, and inspire confidence in the medical profession, as a knowledge of physiology.

To this end we recommend Dr. Ruschenberger's little work, in which all the great functions of digestion, respiration, circulation, sensation and locomotion will be found familiarly explained. It is illustrated with plates; but they are on too small a scale, and withal are executed in a rude and imperfect style. This was a great mistake in the publishers; who ought to have known, that in this, as in the study of zoology and geography, more depends on the graphical delineations than on the text. D.

ART. III.—*Bulletin of the Proceedings of the National Institution for the promotion of Science.* Established at Washington in 1840: pp. 65.

This pamphlet, No. 1 of Vol. 1, contains the proceedings of a society for the first nine months of its existence, organized in Washington City on the 15th of May, 1840. Its object is the promotion of "every branch of knowledge." Its members are divided into eight scientific classes, namely: Astronomy, Geography and Natural Philosophy; Natural History; Geology and Mineralogy; Chemistry; the Application of Science to the Useful Arts; Agriculture; American History and Antiquities; and Literature and the Arts. Two other classes should and no doubt will be established, Botany and Vegetable Physiology; and Comparative Anatomy, Physiology and Medicine.

Among the officers of this Institution we observe gentlemen of high literary and official distinction, such as the Hon. John Q. Adams, the late Gen. M'Comb, Hon. Joel R. Poinsett, Col. Joseph G. Tolten and others, of different political parties or of no political party, and others, as Dr. Thomas P. Jones, of celebrity in science.

The Institution seems to have been peculiarly active and energetic in the beginning of its labors; having held frequent meetings, and opened an extensive correspondence with men of science, and associations of the learned, both in Europe and the United States. It has also commenced the formation of a cabinet and library, intended to embrace specimens and books, illustrative of every branch of human knowledge. Among the early contributors to both, we notice the names of several distinguished physicians.

The founders of the Institution may reasonably expect two important aids from the General Government—first, the collections made by the Exploring Expedition; and second, the Smithsonian legacy. With these acquisitions, an Institution might be built up in the Capital, that would be truly and honorably national. D.

Selections from American and Foreign Journals.

Effect of Belladonna upon an Irritable Eye.—A female of highly nervous temperament, who had been blind from cataract, and had been the subject of several operations for its cure, applied for advice for a diseased condition of the left eye, which followed the removal of cataract, and formed a serious obstacle to vision. The operation, which was performed upon this eye more than a year since by myself, had been followed by a severe and protracted attack of rheumatic ophthalmia, which resulted in a thickening of a portion of the capsule of the lens which had not been absorbed, and an adhesion to it of the papillary margin of the iris, forming an enlarged and irregular pupil. The lens was probably entirely absorbed, and the thickened capsule was perforated by two orifices, one toward the inner and the other toward the outer canthus, through which the patient could see by directing the eye outward or inward, although she was unable to distinguish objects directly in front of her. In the right eye the iris was moveable, the pupil clear with the exception of a minute portion of the lens which appeared in front, and the sight good, the patient being able to read large print without difficulty. Previous to a critical examination of the eyes, I directed (as is usual) the application of ext. of belladonna to the lids at bed-time, intending to inspect them in the morning of the following day. At this time I found the pupil of the right eye (which was the better of the two) largely dilated, but the patient was complaining that her sight was much worse since the application. She was troubled with muscæ volitantes, and other illusive appearances indicative of partial amaurosis; I trusted that these symptoms would disappear, as the effect of the belladonna went off, but they have continued more or less to the present time, a period of several months, much to

the annoyance of the patient, who complains bitterly of the change effected in her sight since this application.

The danger of the free application of belladonna or stramonium in cases where there is the least tendency to amaurosis, has been suggested by some authors; while by others, amongst whom is Lawrence, such fears have been considered groundless. The case cited is the only one in which I have remarked any strikingly injurious effects from it, after having seen it used freely and extensively prior to the operation for cataract. That the powerful atonic effect which this article is capable of producing should, however, promote the tendency to amaurosis, where it exists, appears reasonable, and should induce caution in its use where we have doubts as to the soundness of the retina.—*Amer. Jour. Med. Sci. Oct.* 1841.

Ergot.—Mr. Wright inclines to the opinion which ascribes the formation of the excrescence to the combined influence of atmospheric warmth, and moisture. He is the more inclined to this belief, from the circumstance of the ergot being much more common in the district of Sologne than elsewhere, this district being possessed of those properties which favor such a conclusion, viz. moist rich soil, atmospheric warmth, and sheltered situation. Grains also occur only half of which are ergotted, the other half being healthy; an insuperable objection to the opinion, that ergot is produced by the growth of a fungus, which would equally attack all parts of the grain. Besides, from his own experiments, he found that ergot in powder or substance, sowed with rye, failed to produce the disease on the growing plant, nor did it even succeed, when he watered freely and daily, the growing plants with water, in which ergot had been steeped. The application of the powder of ergot to the growing ears of rye, likewise failed to produce ergotted grains. The excrescences remarked at the upper extremity of the grains he regarded as the stigmata altered by disease. Mr. Wright's conclusions were further confirmed by the fact of his discovery, that ergot contained a considerable quantity of fecula, 26 per cent., a substance which could not have been expected, if the disease were produced by a fungus, and which Mr. Wright has the merit of discovering, no previous analyst of the substance making mention of it.—*Edinburgh Med. and Surg. Jour., Jan.* 1841; *Amer. Jour. Med. Sci.*

Formulæ used in the Treatment of Tinea Capitis.—The following are the formulæ commonly employed by M. Casenave in the treatment of this disease at the hospital of St. Louis:

Ioduret of Sulphur Ointment—Ioduret of sulphur, 1 scruple; lard, 30 scruples.

Depilatory Ointment—Subcarbonate of soda, 8 scruples; lime, 4 scruples; lard, 30 scruples.

Pitch Ointment—Citrine ointment, 15 scruples; pitch ointment, 30 scruples—Or, powdered pepper, 2 to 4 scruples; lard, 30 scruples.

The ointment is applied every evening; in the morning the head is washed with the following lotion:—Subcarbonate of potash, 8 scruples; distilled water, 500 scruples.—*Prov. Med. and Surg. Jour.*, August 14, 1841, from *Jour de Med. Pract.*, *Amer. Jour. Med. Sci.*

New Method of Applying Iodine for the Cure of Phthisis Pulmonalis.—The following is Mr. Leigh's method of using iodine. He directs the patient to apply a sufficient quantity of iodine ointment on the ribs, under both axillæ, and to cover the head with the bedclothes, to breathe iodine volatilized by the heat of the axillæ. The ointment produces counter-irritation on the skin where it is applied, and is to be repeated according to circumstances. This method, he says, has appeared to him to arrest the progress of phthisis.—*London Med. Gaz.*, May, 1841. *Ibid.*

Inhalation of Conium and Iodine in Tubercular Phthisis Pulmonalis.—Sir Charles Scudamore, in a paper in the *London Med. Gazette*, Feb. 7, 1840, states that he has tried the following method of inhalation in phthisis and bronchitis, sufficiently to enable him to recommend it very strongly to the profession. He denies that the inhalation of conium and iodine in either of the above named diseases irritates the lungs;

on the other hand, he says that the patient looks forward with pleasure to the time when the process is to be repeated. He disagrees with Laennec in some points, and thinks that the *early* stages of phthisis may be cured by this mode of treatment, and goes on to relate cases where a cavity was clearly indicated, and where pectoriloquism was most evident, and yet the patient recovered by means of inhalation. Indeed some of his cases were so clearly cases of incipient phthisis, according to his description, that we cannot help placing dependence upon his treatment in some measure, however contrary to the common feelings of the profession. Some, indeed, relapsed and eventually died after an interval of some years; others have not hitherto relapsed, and are yet in perfect health. The author then goes on to relate his method, and the ingredients of his mixture, combining, however, at the same time, other treatment of a general kind. He says—I cannot, I think, too often repeat, that while I claim for the inhalation so great a regard, I consider it to be only one part of the treatment required. The additional constitutional means embrace a very wide consideration. The local external treatment of the chest by proper means of counter-irritation, and by lotions and frictions, is a very important part of management.

I have never seen, from an active remedy, so large a proportion of benefit, with so small a proportion of disagreement and inconvenience, as from the inhalation of iodine and conium. The method also is to be considered; and I may here remark that many excellent remedies have fallen into odium and neglect, at different periods, from the error or abuse of their application. I am careful that all the ingredients which enter into the composition of the inhaling mixture are perfectly pure. I recommend the following formula. ℞.—Iodinii puri; iodid potassii, aa gr. vi; aquæ distillat. ʒv, ʒvi; alcoholis ʒii. M. fiat mistura, in inhalationem adhibenda.

I now always prefer to add the conium at the time of mixing the iodine solution with the water; and it should be a *saturated* tincture, prepared with the most genuine dried leaves. In the commencement of the treatment, I advise very small proportions of the iodine mixture; for example, only from half a drachm to a drachm for an inhaling of eight or ten minutes, to be repeated two or three times a day. Of the soothing tincture, I direct half a drachm—which I usually find sufficient; but it may be increased if the cough be very troublesome. I soon augment the quantity of the iodine, and progressively from ʒi to ʒiv; but also, then prolonging the

time of inhaling, I divide the iodine dose, putting two thirds at first, and the rest after the expiration of seven or eight minutes. If the temperature of the water be measured by the thermometer, it should be 120° Fahr. as being the most favorable for volatilizing the active principles of the iodine and conium, mixed with some watery vapour; but the approximation will be sufficient, if equal parts of boiling and cold water be used; with which the inhaler is not to be quite half filled. Invariably, however, care should be taken to prepare the bottle for this heat of water, by first washing it out with some tepid water.

During the process, the inhaler should be kept immersed in a jug, containing water of rather higher temperature than 120°.

It is of the utmost importance that the strength of the inhaling mixture should be considered in relation to the particular case. The feelings of the patient will be a great guidance; he should have the sense of relief, and not of inconvenient irritation, produced. The cough arising occasionally during the process is not an objection; but if it be more irritable afterwards, it shows that it has been used too strong. There is a certain stage of the tubercular disease, when overexcitement, from employing the iodine in too great quantity, might hurry on the softening process too quickly. It is here that the treatment demands the greatest judgment. In every case one of the following events may be expected to happen; either that the tubercular irritation will be arrested and gradually removed, be arrested and suspended, but not cured, or pass on to the softening process, which terminates in the production of an excavation. In all these different states of disease, I advise the inhaling treatment to be employed.

It is my belief that this direct and very accurate mode of applying this powerful medicine, iodine with conium, induces a new action in the vessels and nerves of the lungs, which is calculated to supercede the diseased action. I also assign much effect to the stimulation of the absorbents, and have been led to believe that tubercles have in this manner been actually removed.

With a well constructed glass inhaler I find all the satisfaction I can desire. The bottle should be large, and the tubes capacious. The one issuing from the bottles should be upright, passing off in a gradual slight curve, so that the vapour shall not be much cooled in the course of its progress; the ingress tube should dip very near to the bottom of the bottle, that all the air so introduced may receive impregnation. The

patient must be desired to inhale by using at the same time suction and a pretty full inspiration, then to drop the under lip from the mouth-piece and make a free expiration; so conducting the process by pausing, and, if he like, little suspensions, in order that he may not experience any of the fatigue which would certainly happen if breathing quickly, or using an inhaler with small tubes, or with too much water in the bottle.—*Braithwaite's Retrospect*, from *Lond. Med. Gaz.*, Feb. 1840; *Ibid.*

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*Magendie's Method of treating Neuralgia.**—The remedy, *par excellence*, recommended by M. Magendie in the treatment of obstinate neuralgia of the face and other parts, is electro-acupuncture. The needles should be made of an unoxydisable metal, and therefore those of platina are to be preferred. With respect to the mode of introducing them, it is better to push them at once, and with a sort of plunge, than to endeavor to drill them more slowly. In most cases two needles are quite sufficient; one near the origin of the nerve, and the other near its termination or expansion. The former is then to be connected with the positive wire, and the latter with the negative wire of a galvanic apparatus. The patients usually describe the sensations experienced as if a spark or stream of lightning passed instantaneously along all the divisions of the nerve: at the same time the muscles of the part are thrown into contractions. The application is not to be continued beyond a few cases, except in some severe cases, in which a continued stream must be maintained for some time. M. Magendie gives the preference to Clarke's electro-magnetic machine, as being altogether more convenient than any other for the purpose of electro-acupuncture.

If the neuralgic pain leaves one branch of a nerve to fix itself upon another branch, or upon another nerve, one or both needles are to be withdrawn, and should be inserted along the course of the nerve newly affected.

Several cases of supra-orbital neuralgia are adduced, in which the employment of electro-acupuncture speedily dispelled all suffering. The following one, in which the superior maxillary branch of the fifth pair was the affected nerve, may deserve to be noticed.

*Medico-Chirurgical Review, July, 1841, p. 202.

M. Thelin had been subject to frequent attacks of most severe neuralgia, affecting the superior maxillary nerve of the left side, when he first consulted M. Gagendie. The pain in the gums, lips, cheek, and ala nasi, were insupportable; the patient could scarcely utter a word, and as for mastication, that was impossible. All methods of treatment had been tried, and all tried in vain. What with having many of his teeth extracted, and being leeched and blistered, and physicked for months and months at a time, his constitution had suffered severely. He consulted M. Magendie on the 5th of March, 1838; at one sitting of a few minutes the pain was *chasse*. Since that period, whenever the neuralgia returned, he repaired to M. Magendie, and always left him cured of his sufferings. It is now several months since he has had an attack.

In the second volume of our author's lectures on the nervous system, he has related two cases of severe neuralgia affecting the tongue; in one of which the disease had lasted for four, and in the other, for one year. . . . . "A very fine platina needle was inserted into the trunk of the facial nerve, where it enters the parotid gland, and another was inserted into the affected side of the tongue. In this manner I was sure to act on the seventh and fifth pairs of nerves, since I punctured the trunk of the first and the lingual branch of the second. The needles were then connected with the wires of Clarke's machine. In one of the patients the pain in the tongue immediately ceased, but it fixed itself on the mental branch of the inferior maxillary nerve. The needle was forthwith withdrawn from the tongue, and inserted over the *foramen mentale*. The pain was driven from this point, but it was almost immediately transferred to the infra-orbital nerve. The needle was, therefore, introduced over the aperture from which it escapes. The enemy was thus pursued from one point to another, and ultimately was expelled before the patient left my house. In the other case, the pain, when driven from the tongue, took refuge in the sub-orbital nerve; driven from this, it returned to the tongue, whence it was again dislodged. Ultimately the patient was quite cured."

Certainly such practice is infinitely superior to that of attempting to divide each nerve, that becomes successively affected, as practised, for example, by M. Roux in a recent case, where he divided first the mental branch of the inferior max illary, then the lingual, and, lastly, the sub-orbital nerve—the enemy, however, retreated to the ethmoidal, where the knife of the surgeon could not reach him.

"In such a case," says M. Magendie, "I pursue the pain, not with the bistoury, but with the galvanic current. Even should it fix itself upon the ethmoidal nerve, I should insert one needle into the nostril, and another into the orbit, along the upper part of its internal wall, at the place where the external nasal traverses it, thus attacking it both near its origin and its termination."—*Gazette Medicale.*

Remark.—We have no doubt that electro-acupuncture will relieve the suffering in many cases of neuralgia which are unconnected with structural disease of any part; but it is more than probable that the relief will be only temporary, unless appropriate constitutional means are employed at the same time.—*Rev.*

On the Use of Ergot. By George Fife, M. D.—Having long been convinced of the value of the ergot of rye as a medicine, I now beg to offer the following remarks to my professional brethren; premising, that what I am about to advance is not the offspring of any fanciful notions as to its *possible* effects, but a simple statement of the results by which its use has been followed in my practice for several years. This assurance seems to be especially necessary at the present time, when it is but too much the fashion to render facts subservient to hypotheses. Whatever, then, may be advanced in this communication has been actually observed: and I am perfectly satisfied (due discrimination being exercised) will be fully sanctioned by further experience.

To enter upon the consideration of the action of the ergot on the parturient uterus, or the very interesting and important question of its power to excite uterine action, is foreign to my present object; I shall therefore proceed at once to a statement of its efficacy as a medicine, and the diseases in which I deem it worthy of confidence.—They are—polypus uteri, attended with profuse hemorrhage; menorrhagia, where there is no inordinate action of the heart or arteries, or morbid sensibility of the uterine system; in leucorrhœa, when independent of inflammatory action; in chlorosis with amenorrhœa; and in dysmenorrhœa: in all of which cases I have had numerous opportunities of ascertaining its efficiency.

The first time I saw it exhibited as a medicine was by my

lamented friend, the late Mr. Parr, of this town, so long ago as the year 1828. It was in a case of very large polypus of the uterus, accompanied with frequent and frightful attacks of hæmorrhage. He gave the ergot after all ordinary treatment had proved unavailing. The effect produced was not only the moderation of the hæmorrhage, but also the expulsion of large and numerous masses of the tumour, in many of which a distinct fibrous structure was perceptible. After its continued employment, the woman, who had arrived at the climacteric period, enjoyed comparative health and comfort, being freed from the repeated and alarming hæmorrhages, and experiencing no inconvenience from the small portion of the tumour which, when last examined, still remained. To this case I owe the idea that it might possibly be useful in others. How far this has been justified, the sequel must decide.

In menorrhagia, by which term I do not mean the mere increased menstrual discharge, I have found this medicine of the greatest value. In this disease, however, it is necessary to ponder well on the individual circumstances of each case, and to use the utmost caution in ascertaining the cause on which the disease depends; as where such precaution has been neglected, it has been my lot to see both the sufferings and danger aggravated by the ergot. In this respect it does not differ from other active medicines. The slightest reflection will suffice to call to mind the very different states of the system in which this disease occurs. It may, for example, happen in the most phlogistic and plethoric, or it may arise in a person of a diametrically opposite constitution. If given in the first state it is decidedly prejudicial, unless preceded by such means as are calculated to remove alike the plethora and morbid sensibility; and even when this has been done, its operation requires to be carefully observed. In the last it acts more beneficially, as it at once raises the nervous energy of the uterus, and through this medium probably imparts increased tone to the relaxed and debilitated vessels from which the exhalation takes place. The following case affords a striking example of the utility of the medicine:

In 1834 I was requested to visit a poor woman who had for many years led a most abandoned life, and who was apparently in a dying state from extreme exhaustion. Her age might be about thirty-four. On inquiry, I learnt that for the two preceding years she had suffered from repeated and severe hæmorrhages from the uterus, and that, on the present occasion, the discharge had continued for many days, until, when I saw her, though still abundant in quantity, it was not

more colored than the serum of healthy blood. In short, she seemed to be rapidly sinking. I ordered her immediately a full dose of the acetate of lead, with opium, to be repeated every four hours; and port-wine or brandy, in sago, to be given frequently. Cold was applied, both externally and internally, by means of an injection of a strong solution of alum. For a brief space of time she appeared somewhat relieved; but in two or three days the hæmorrhage recurred with increased violence, the fluid also being more sanguineous. Having in other cases, fancied that the ergot had been of use, I immediately gave her ʒss. of the powder, to be repeated in ℈i. doses every three or four hours. From the lapse of an hour after the first dose she experienced manifest relief; and on seeing her in the evening, I directed the third dose not to be given till the sixth hour, unless any recurrence of the discharge should render it necessary. Next day she continued better; and the medicine was directed to be taken only night and morning. From this visit she went on gradually improving; and for two years after, when I had occasion to prescribe for her, she had experienced no return of hæmorrhage. She appeared quite well in health, but completely blanched in colour. To this I might add several other cases, occurring in persons of asthenic constitution, in which similar good effects were derived from the ergot, but consider that it would only be a needless occupation of your columns, and your readers' time. It may be enough to say, that seven years of subsequent practice have confirmed my reliance on the ergot in such cases. Even where an opposite diathesis prevails it has been employed advantageously, combined with conium and hyoscyamus. In such persons it is advisable to premise a moderate abstraction of blood from the system, and to keep up a depletory action by means of saline cathartics. In these cases, however, the infusion of roses with sulphuric acid and digitalis, or alum, seem more appropriate.

In leucorrhœa it has been highly useful. In this disease, as in menorrhagia, it is necessary to ascertain the state of the system, more particularly the uterine disorder on which it depends; as where any degree of inflammation is present it will be injurious. In several distressing cases of this disease, where the strongest astringent injections had been employed without any effect, except exciting inflammatory action which did not previously exist, I have found the ergot, aided by injection of simple warm water, or the decoction of poppy capsules, perfectly successful. I may observe *en passant* that from considerable opportunities of observation, it is my firm belief

that in a vast proportion of cases of lucorrhœa, stimulant and astringent injections are not only uncalled for, but absolutely contra-indicted; at the same time, it must be acknowledged, that they are occasionally of great use.

In chlorosis and amenorrhœa I have frequently experienced the good effects of the ergot, after aloes, iron, valerian, cantharides, &c., had all been employed without the slightest advantage. In these cases, when extreme nervous susceptibility exists, it may be most advantageously combined with the valerian, and where the alvine system is torpid, with aloes. When aloes are employed, I attach the preference to the Barbadoes: in doing so I may be somewhat empirical, as it is difficult to account for the superiority of the Barbadoes over the socotrine, as an emenagogue, unless it be ascribed to the larger quantity of bitter principle contained in the former.

In dysmenorrhœa the ergot has been most useful. In one case, accompanied with what may without exaggeration be termed torture at each period, it appeared almost magical in its operation. It is right to state that it was given in combination with the valerian; which medicine, however, had been previously given, but without any apparent benefit. To enter into the detail of individual cases is not only tedious, but would also occupy too much of your valuable columns. I shall therefore endeavor, with the utmost possible brevity, to explain the apparent paradox of a medicine being of use in cases at first sight so pathologically opposite.

It is well known that the same cause operating on different constitutions will be followed by effects proportionately variable. This is a fact which does not admit of refutation, whether it be applied to a man morally or physically. So then it is with regard to the uterine system, as every man of moderate experience will admit that the same morbid condition will, according to peculiarity of constitution, produce a very dissimilar train of symptoms. Thus, whilst a congested state of the uterine vessels will in one person lead to menorrhagia, the same cause operating on a different constitution will be attended with leucorrhœa. Again, when the nervous system of the uterus is at fault, we in one person have chorea, in another simple hysteria, in others cardiac and pulmonic symptoms, &c. &c. This is especially true in regard to menorrhagia and leucorrhœa. These diseases may arise alike in the sthenic and asthenic diatheses, which must of course render a corresponding modification of our remedial measures necessary. Without using much discrimination, we aggravate rather than alleviate the suffering inseparable from disease, and enrol ourselves under the banner of empiricism.

I have merely to add, that I consider myself fully justified in recommending the ergot as an excellent emenagogue and anti-hæmorrhagic agent. Should this recommendation be followed by beneficial results in the hands of other professional men, I will regard myself as amply rewarded for the trouble of putting together the foregoing remarks, the correctness of which can only be proved by trials more extensive than private practice; besides which, every man is liable to view with *partiality* any plan of treatment, which, without authority, he adopts and finds successful.

P. S. The doses in which I have prescribed it, have varied from gr. x. to ℈i. of the powder, ʒss. to ʒi. of the concentrated tincture. A good formula for decoction is given in Foot's Medical Almanack, although it appears to me that the quantity of ergot is rather small.

My friend, Mr. Bennet of Gateshead, informs me that he has given the ergot in a case of hæmoptysis with very satisfactory results.—*Lon. Med. Gaz.*

Observations on Solar Asphyxia, Coup de Soleil or Sun-Stroke. By B. Dowler, M. D., of New Orleans.—In the numerous works written or re-published in the United States, I have not seen any satisfactory notice of this very frequent, and in the south, most fatal of all maladies. During five weeks, ending with last month, (July,) five fatal cases occurred in my practice alone.

The name I have chosen for the disease, (*Solar Asphxyia,*) being descriptive of its leading symptoms, will, I trust, receive the sanction of the profession and the public. I adopted it several years before I had an opportunity of testing by dissections, the character of the disease, which it so fully expresses. *Pulmonary apoplexy,* is a name, more characteristic of the morbid appearances of the lungs, but it makes no allusion to its solar origin, or to the symptoms of suffocation, which mark its progress.

Solar diseases require a particular arrangement or classification which is highly important in a practical point of view. I submit the following:—

I. *Solar exhaustion or syncope;*
II. *Solar or sun-pain;*

III. *Solar excitement or inflammation;*
IV. *Solar asphyxia;*

which we propose to make the principal subject of our investigation.

I. Solar exhaustion differs from solar asphyxia, both in symptoms and treatment. In solar asphyxia, the skin is extremely hot, and generally dry; there is a choking sensation and a total loss of sense.

In solar exhaustion, the skin is moist, pale and cool; the breathing is easy, though hurried; the pulse is small and soft; the vital forces fall into a temporary collapse, the senses remaining entire. Horizontal position, free air in the shade, external stimulants and frictions, are usually sufficient to restore the patient. Vomiting is very useful, and is easily excited, as there is usually nausea; warm water, and if necessary, a few grains of ipecac. may be given. Vomiting appears to throw the blood from the centre to the circumference. The pulse rises.

That fatal disease of northern summers, ascribed to drinking cold water, is probably, nothing but solar exhaustion, in which cold water has but a secondary agency. It happens only in very hot weather.

II. Solar, or as it is commonly called by the people, sun-pain, is a chronic disease in which the abdominal organs are more or less deranged, though the most remarkable symptom is a pain in the head, while the sun is above the horizon.

III. Solar excitement or inflammatory re-action, sometimes follows solar asphyxia of the second degree, being attended with febrile heats, arterial throbbings and headaches.

Case.—A cooper while working in the sun, fell so suddenly as to bruise and lame himself considerably. He soon got up; but feeling feverish, and having pulsations in the head, for several days he tried the Thompsonian treatment without benefit. He called on me for advice. He was bled freely, which caused a long continued syncope, from which he arose cured. He took no medicine and went to work the next day.

J. E. had been to the town of Bath, six miles distant, on the 4th day of August, 1837, in company with Dr. R. and another person; while attempting to walk back to New Orleans, upon the rails of the Nashville rail-road, not then finished, the doctor fell sun-struck, and expired in a few minutes. The body was abandoned. The other companion of E. had not walked far, when he too fell, and died in like manner. The next morning as E. was passing opposite my door,

on the sunny side of the street, he fell. I instantly bled him, upon the pavement. The blood trickled slowly at first, but soon after flowed in a good stream, and the pulse, though feeble, became fuller during the operation. In a few minutes, the man walked to his boarding-house, without feeling any unpleasant symptoms; but a moderate re-action coming on during the day, cathartics were given, and by the following day, his health was restored. In this case, blood-letting was probably useful, but in nine cases out of ten, it is useless if not worse, accelerating the death from five to fifteen minutes. During the last five years, I have been called to see a very considerable number of sun-struck persons, within five or ten minutes after they fell in the streets: formerly, I used to bleed them, and though the great heat of the body is thereby suddenly diminished, the pulse becoming soft as air, yet by the time the arm is tied up, (which is done more for form than necessity,) the patient is choked suddenly, and to appearance, by a dense tenacious mucus, the breathing not ceasing gradually, as in other disease, but instantly the face turning livid, and even its veins, especially upon the forehead, becoming at the moment distended. Bleeding hastens the strangulation, though it is always desired by the friends.

Without anticipating the description of sun-stroke, to be found in the sequel, I may add another variety, a sub-acute affection, beginning with solar excitement and ending in asphyxia.

Case.—A gentleman who was not acclimated, exposed himself to the sun until noon, when he sent for a physician, who bled him most profusely, (two pounds,) gave him cathartics, applied mustard on the stomach and legs, cold to the head, &c. Afterwards he walked about for some time, but in the afternoon became insensible. About sun down I was called in, and found him asphyxiated, unable to swallow, totally insensible, breathing as in sun-stroke; pulse air-like and quick; the skin hot. He did not die until late in the night. This affection lasted about fifteen hours; more than fifteen times longer than the average duration of acute solar asphyxia, which has but one stage, as truly as hanging, drowning or suffocation from carbonic acid gas, with this difference, that in the former there is not a movement in any of the muscles, except those concerned in breathing and in circulating the blood, except immediately before or after the last breath, when there is sometimes, a very slight contraction of the fingers, and a kind of bending or turning of the body towards one side, though this is scarcely observable.

Solar exhaustion in its mildest and chronic form, that of debility, is a uniform effect of our hot season, until after acclimation. During this period, though the health may be good, the ability to perform the usual amount of labor is diminished. Even horses are debilitated, often get the *thumps*, and frequently die from solar asphyxia, during the acclimating period. This is so well known that an acclimated horse or mule is worth much more than one not so protected.

Slaves from Missouri, Virginia and Maryland, suffer as much if not more from debility, than the whites, during the first and second summers. I have seen some whose tongues were pale and flabby, whose pulses were feeble and irregular. In these cases the muscular power is lessened; the skin is covered with an abundant, cool perspiration, and sometimes, there are palpitations of the heart, not unlike those which attend organic, rather than functional disorders of that organ, requiring the horizontal position, than which nothing is more important for the removal of these affections during solar acclimation.

Solar and terrestial heat, differ essentially in their action; on health the latter seems never to produce any morbid effects, resembling sun-stroke, though many firemen in boats, foundries and furnaces, are exposed to a high temperature. The solar rays may undergo some unknown modifications from local causes, independent of mere calorific influence.

In Louisiana, solar asphyxia is rather an *urban* than a *country* disease, affecting those not thoroughly acclimated to the city. The persons alluded to in the following extract, were doubtless unacclimated. "In 1821, H. M. Frigate Liverpool, was proceeding from Muscat to Bushire, the weather gradually increased in warmth, double awnings were spread, the decks kept constantly wetted, and every precaution used to prevent the exposure of her men; yet in one day, from a *species of coup de soleil*, she lost three lieutenants and thirty men. If, for however brief a period, they exposed themselves to the sun, they were struck down senseless. The frigate's main deck at one time, is described to have resembled a slaughter house, so numerous were the bleeding patients. (Travels by J. R. Wellstead, Esq., F. R. S. F. R. A. S. vol. i. p. 75, 1841.)

Upon the 24th of May, 1839, after visiting a man who fell asphyxiated, in the St. Mary's Market, and who lived only twenty minutes, I called at another place to visit a patient, and while in the house, a man of very robust appearance, fell with great force upon the floor, causing the blood to flow from his nostrils freely. He soon recovered, and informed me that

he had been exposed to the sun, and had fallen once before during the day, but feeling very well as he said, he declined the offer of my medical services. I met him daily for some time after this occurrence, in good health. He declared that no pain or inconvenience attended his falls except some bruises.

Solar asphyxia, sometimes has taken place in the shade, immediately after exposure to the sun, and, even as late as five or six o'clock in the evening. In several instances, the patients came in at five o'clock, P. M., and fell unknown to any one, and were not discovered in their rooms for an hour or two. Attacks late in the day are not so quickly fatal, as those occurring between noon and the middle of the afternoon.

If the attack happen in the hottest part of the day, it terminates in death, in about half an hour. July 26th, 1838, at 3 o'clock, P. M., when the thermometer placed against a brick wall, upon which the rays of the sun struck obliquely, stood at 130°, I was called to visit a paver, a stout middle aged man, who fell in Fourcher street, near my office. I saw him within five minutes after his fall, his skin intensely hot, breathing noisy, irregular and with subdued sobbings, unable to swallow, pupils rather contracted, eyelids nearly closed, pulse extremely variable, irregular and quick. A vein being opened, the blood jetted and stopped alternately, the pulse becoming gaseous as the blood flowed. Ice water was poured upon the head and neck, a mustard paste was spread over the body. He lived thirty minutes, expiring upon the pavement.

If the attack should happen late in the afternoon, it may last from one to two hours, or even longer. I have had at least five to six cases, in as many years, where persons have not long before sunset quit work on account of the heat, rather than from any sickness, they have returned to their rooms, when an hour or more after, they have been found accidentally, in a dying state from solar asphyxia, not having made any noise to arrest the attention of the family.

The most usual place of attack, is among paved streets and brick walls, or upon the levee, where there is no shade. The structure of our wharves and levees, would admit of many shade trees, without interfering with the utilitarian cravings of commerce. Such an improvement would be alike ornamental and useful.

Almost the only persons subject to this malady, are white males, who labor in the sun, and who have not passed through the acclimating period of three or four years. I never saw but one negro die from this cause. He fell in Julia street, Aug.

2d, 1837, and lived about an hour. He was very stout, but I do not know whether he had been acclimated. A negress, while at the washtub, was struck down. I found her senseless, speechless, and breathing with some difficulty, but she retained the power of swallowing; and by the use of cathartics, sinapisms and blisters, recovered in two days.

It is often impossible to get exact histories of the premonitory symptoms. In some instances the patient has not probably had any. The history of the case is something like the following. He had eaten his dinner as usual at noon, urged by his wants or love of gain, he went forth to brave the heat of the sun. The walls, roofs and pavements, now heated to the utmost radiate an intense heat, the temperature exceeds that of the human body, from 30° to 40°. The laborer, perhaps, wears a thin straw hat, and has his hair cut close, in order to keep the head cool; this in fact, exposes the head to the solar influence much more than a thick coat of hair, and a wool hat would do; from the same false theory, he wears a thin cotton shirt, which is the only garment with which his chest is covered, and which, when saturated with sweat, affords but a feeble resistance to the conduction of heat into his body. Now placed in an atmosphere 30° or 40° hotter than his body, it is plain that a blanket coat, or still better, two shirts, one of good thick flannel or wool, next the skin, and one of cotton over the other, would be a great defence against the sun, affording the coolest kind of dress, except to such persons as are in the shade.

Thus thinly clad, the laborer engages at the hard exercise of rolling cotton bales, loading or of unloading ships, coopering, digging or paving. The exercise increases the influence of the atmospheric heat; he finds his skin becoming hot and dry, the next instant he falls, or perhaps, he may conclude to "knock off" from work. He proceeds homeward, a square or two, before he drops to rise no more; the passers-by collect around him; some run for a doctor, some apply ice to his head, and the first bleeder that can be had, perfoms blood-letting. From the total loss of sensibility in the patient, the first impressions of the physician, lead him into the belief that the malady is apoplexy. Of this, more hereafter.

The patient's mouth is found rather open; the under jaw has fallen; a tenaceous mucus appears between the lips and in the nostrils; the breathing is irregular, unequal, laborious; the chest not expanding and oontracting well, reminds the beholder of the voluntary efforts which patients sometimes make in fractures of the ribs, and pleuretic or rhumatic in-

flammations, to prevent the movements of the chest, necessary to full breathing. The wind-pipe moves violently up and down, the abdomen and diaphragm rising and falling simultaneously. The breathing is noisy, but not stertorous. The sound may be heard several yards from the patient. Just below the clavicles, the sounds as heard through the stethescope, are very remarkable. Some are acute, some are dull, with a puffing or roaring sound. By applying the hand to the chest, a bubbling or boiling could be felt beneath. As death approaches, these noises recede from the extreme branches of the wind-pipe, and occupy the upper proportions of that tube. At length the accumulating mucus obstructs the passage, an involuntary effort is made to breathe, but in vain; yet sometimes, as in the fatal moment of croup, one or two additional respiratory movements take place. Almost always, the breathing stops *suddenly*, by a strangling fit. Often at the instant of death, or at the instant after the cessation of respiration, the face turns almost black, and the veins of the forehead swell, as if a violent effort was being made to get another breath. Before breathing ceases, retching sometimes take place; or a kind of strangling cough, or an inarticulate moaning like that from some of the dumb animals, when in pain; or perhaps there is a kind of suppressed sobbing or sighing like that caused by sudden immersion in cold water. Yet in everything except respiration, death takes place with the utmost tranquillity, not being accompanied with spasmodic or convulsive distortions, so common in fevers and affections of the brain. Be it what it may, the cause of death begins, continues, and ends in the breathing aparatus.

The pulse is hurried, hobbling and unequal; very often gaseous or air-like, but never slow, hard and large, as in apoplexy and some other diseases. The external veins are not full, and the arteries of the arm are easily compressed by a ligature. When a vein is opened, the blood sometimes trickles, then starts in jets, stopping and starting several times. As the blood flows, the pulse becomes more and more gaseous, the heart diminishes, perspiration begins, and strangulation almost immediately follows.

From the commencement of the disease, the power of swallowing is totally gone in almost every case. Whatever is poured into the mouth, runs out or rattles in the throat, according to the position of the body. I have given a mixture of mustard and salt, or ipecac.; but I am now satisfied, that to put any thing into the mouth, is not only useless, but positively hurtful, as it often drops into the windpipe. The eyes

are not projecting, discolored or rolling, but generally maintain their parallelism, though they are somtimes turned upward; they are less closed than in sleep; the pupils are perfectly natural; the power of winking is totally lost; the eye is lustreless, and expressive of a dying state. The patient is usually found lying on his back; he has no power to change his position; his neck, body, and limbs are free from rigidity or motion throughout the attack. In the act of dying, I have noticed a slight curving of the body laterally, with a feeble contraction of the fingers. In solar asphyxia, the symptoms, and the manner of death, are more uniform than in any other malady. The heat of the body, both before and after death, is a most remarkable circumstance. In the hurry, incidental to a death so sudden, I have not had an opportunity of applying the thermometer, to ascertain the exact temperature; but judging from the sense of touch alone, it would seem much greater than in the hottest fevers. The heat may be felt, radiating from the patient's body, at the distance of two or three feet. In cases where the patient has not been bled copiously, the heat is very pungent. The heat of the body continues, generally, many hours after death, including the whole night. This is the more remarkable, as our nights are not hot and sultry, but accompanied with breezes, which, by morning, cool even the walls and pavements.

After the death of the lungs, or the cessation of respiration, the heart and arteries will, in some instances, continue to act.

Case.—Mr. C. died of solar asphyxia, on the evening of July 24, 1836. About an hour after he had been laid out, two messengers called on me to visit the corpse, which was supposed to be alive. I found the body as warm as at death, though it had since been washed. I found a slight pulsation at the wrist, and a feeble motion of the heart. Dr. Young, of this city, was lately called, under similar circumstances, about two hours after breathing had ceased, from sun stroke. He found the body very hot, and, as he thought, slight motions of the heart and arteries. I dissected two bodies at the same time, that had died the day before, and found the heat of the trunks about equal to that of a person in health.

After death, the face and neck become of a blackish or purplish, spotted hue; a mucus foam, often mixed with blood, begins, soon after death, to issue from the mouth and nostrils, and is very copious, in many cases, the day following.

So Asphyxia, or Coup de Soleil, has long been regarded as apoplexy: the entire loss of the senses—the universal paralysis—all seem at first view, to sustain that common, but erro-

neous, opinion. In the worst cases of apoplexy, the patient is not always instantaneously deprived of volition, feeling, and motion. The apoplectic, in the early stages of the malady, may be awakened, and can answer, though not able to speak more than a word or two. He will generally open his eyes on being spoken to; can swallow, and will start from the lancet, or the application of ice; and he possesses some power to move the muscles. Nothing of all this happens in solar asphyxia. Effusion of blood upon the brain, extravasation into its ventricles or substance, as well as congestion, are much more gradual in their effects. The depression of large portions of the skull, and the presence of enormous clots of blood upon the brain, do not destroy all sensibility. In trephining the skull, while the patient seemed in a deep, snoring sleep, I have sometimes found it necessary to cause his hands to be held down, as he evidently felt pain from the operation.

The worst cases of apoplexy last from twelve to twenty-four hours, generally; solar asphyxia, as many minutes. Apoplexy affects one side, or half of the body, with palsy, and sometimes is attended with convulsion. After the apoplectic fit goes off, the palsy often remains; sometimes, permanently. Nothing of the kind occurs in solar asphyxia. In the former, the breathing is infrequent and snoring, the pulse is slow and hard; in the latter, the breathing is quick and rattling, the pulse rapid and gaseous. The former happens to the rich, the luxurious, the sedentary, the corpulent, the plethoric, those who have thick short necks; the latter happens to the poor, the laborer, the exposed, who undergo hardships. The former happens in cold weather and in hot, in the day time and at night; the latter, only in hot weather, and during the day. Solar asphyxia has no premonitory symptoms, except a sudden heat, and dryness of the skin; neither headache, scintillations, or any cerebral affection. Apoplexy has well known premonitory symptoms. The following passage is taken from the April No. (1841) of that treasury of medical science—Johnson's Med. Chir. Rev.—and is illustrative of this position. "Napoleon, who dreaded apoplexy, asked Corvisart, his first physician, for some information respecting this disease. Sire, replied Corvisart, apoplexy is always dangerous; but it is *always* preceded by certain symptoms; nature seldom strikes the blow without giving warning. A first attack, which is always slight, is a *summons without costs—sommation sans frais;*—a second, *summons with costs—sommation avec frais;*—but a third, *is an execution on the person—prise de corps.* Corvisart, himself, afforded a melancholy proof of the truth of his assertion."

Solar asphyxia is probably an universal lesion of the nervous system; but more particularly of that part which is necessary to the pulmonary circulation. The blood which suddenly accumulates in the lungs, ceases to be arterialized; it gorges not only the blood-vessels, but infiltrates the pulmonary substance, forming the most perfect example of hyperœmia, and even penetrates the coverings of the lungs,—*pleura pulmonalis*,—and is copiously effused into the cavity of the chest, as I have seen several times. In this contest, the lungs are, probably, throughout the attack, in a collapsed or passive state, permitting the blood not only to distend its proper vessels, but to permeate readily throughout the pulmonary texture, until the lung is, perhaps, one-fourth heavier than is usual. Whether the pulmonary congestion be the primary or secondary condition of insolation, I will not say; but I must remark, that of all morbid appearances, of a congestive character, this is the least equivocal, so far as I have examined. Here nothing is ambiguous; the congestion and hyperœmia, are truly wonderful.

Although physiology teaches us that man is endowed with the powers of maintaining the same heat of his body in all climates and situations, with few exceptions, still it is possible, under peculiar circumstances, that the body may become actually heated. A chemico-vital refrigeration, by means of perspiration or evaporation, is constantly going on—in health, especially—in hot climates. The "fire-kings" themselves, when in a heat of 500° or 600°, would roast and turn into cinders, were it not for this refrigerating process, in conjunction with a vital energy, which for a time neutralizes the accumulating power of caloric. The solar heat probably accumulates upon the surface of the body faster than nature can refrigerate through the lungs and the skin, by evaporation; inequilibrium presses upon the vital energy, which, being exhausted in the contest, as well as by excessive labor, is unable longer to neutralize the excess of temperature—often 40° more than that of the body. Vital chemistry is unequal to the task of preventing the conduction of heat into the body, and death is the consequence.—*N. Y. Med. Gaz., Oct.* 1841.

Employment of Creosote for the cure of affections of the Eye. By G. T. Black.—Two years since I suffered severely from inflammation of the eye, occasioned by a cold, and which, perhaps, from inattention, assumed a chronic form. Frequent attempts at removal were made; first by refrigerant and sedative collyria; then by astringents, zinc, nitrate of silver, &c., which produced but slight benefit. Accident, however, shortly did all that I desired—effected the cure.

Whilst replacing on the shelf a bottle of creosote, a small portion of that which usually lodges round the stopper dropped into the affected eye. For a few minutes the pain was extreme; the existing inflammation was also superadded to: these effects were only temporary, soon subsiding into ease, and a sensation of coldness in the eye was experienced. From this time the inflammatory action greatly weakened, till complete restoration took place; subsequently I reflected upon the palpable and sudden alteration for the better, and determined to put the means to the test of experiment, to confirm or annul the claim of the agent. The comparatively few cases, however, which have since fallen under my notice, or rather under my immediate care, do not justify my putting the remedy forward as a specific; yet, in the majority of ophthalmic cases, particularly when of a chronic nature, I believe none of the means now usually employed promise fairer, as a therapeutical agent, for their speedy removal. Three cases are enclosed, in addition to my own, in which I have been happy enough to succeed.

Case 1.—A man, aged 40, temperament nervo-bilious; symptoms much as usual, but severe; redness of the conjunctiva adnata, &c.; excessive pain, intolerance of light, and lachrymation; thirst; headach; preternatural heat of body; great pulsation of the temporal arteries, and other febrile symptoms:—venesection to twenty ounces; calomel jalap purges, abstinence, and poppy decoction. These but ill succeeded. Sedative lotions, tartar emetic in nauseating doses—slight benefit. Calomel and opium three times a day: vessels of the conjunctiva still distended, but less bright; general health better; less headach, &c. Patient thoughtlessly absented himself for two days: on next appearance the eyes apparently much the same, but complains of dimness of sight; stimulating lotion; no evident change. Creosote lotion,* to be

*The formula of the lotion employed, gradually increasing the strength according to circumstances, is

R. Creosote, m. iij;
Compound tincture of lavender, m. xx;
Distilled water, ℥ss.

used three times a day. At the expiration of a week, less redness, and no dimness of sight. I have once seen him—quite recovered.

Case 2.—A young man, aged 18, (lymphatic temperament,) while at his usual employment had a piece of lime accidentally thrown into his eye, which produced inflammation, that ended in an ulcer near the internal canthus. Upon a subsequent attack from exposure to cold winds the cicatrix spread to a great extent, bordering on the margin of the pupil, attended with indications of chronic inflammation. As far as I conveniently could, the excrescence was removed by knife; the after-application of creosote, in an undiluted state, diminished the remaining portion, and dissipated the inflammation.

Case 3.—A child with *ophthalmia tarsi.* It yielded to none of the usually employed remedies, but gave way to the application of the creosote ointment, and the internal administration of the disulphate of quinine. I am fully aware how generally the therapeutical properties of creosote have been called into notice, such as an application to burns and ulcers, in herpetic, furfuraceous, squamous, and crustaceous skin affections, in bronchitis to promote expectoration; in toothach; in atonic rheumatism, &c.; but I have not yet seen any account of its use in affections of the eye, which will, perhaps, excuse me, should such have been the case, for thus taking attention from more important matters.—*Lancet*; *Med. Examiner.*

Division of the Genio-hyo-glossi Muscles for Stammering. By Alex. J. Lizars, M. D., Lecturer on Anatomy and Opertive Surgery.—P. M., aged 35, had stammered from his infancy. The difficulty was evidently caused by spasmodic contraction of the muscles of the tongue and neck. The tongue, upon examination, was found to be shorter than natural. I operated in presence of my assistants, Messrs. Riccard and Hole, and two of my pupils, Messrs. Collyns and Tibbets.

The instruments employed were, a straight sharp-pointed bistoury; a curved probe-pointed bistoury, with the cutting edge about an inch long, the remainder of the blade being blunt; a four-headed sling, or roller, and a compress of lint.

The patient having been placed in the sitting posture, with

the sharp-pointed bistoury I made a puncture, rather less than a quarter of an inch in length, through the integuments of the lower part of the chin, about an inch posterior to the symphysis. I then pushed the curved bistoury gently upwards and a little forwards, until I saw its probe elevating the mucous membrane of the floor of the mouth; placing the forefinger of my left hand upon the probe-point and mucous membrane, I turned the cutting edge of the instrument to the right, and divided the muscles of that side; the bistoury was then carefully brought back to the mesial line, and the other muscle having been divided in a similar manner, the instrument was withdrawn. The compress of lint was then placed on the wound, and the four-headed sling applied in the same way as is done for fracture of the lower jaw.

Very little blood was lost during the operation; and after its completion the hæmorrhage was entirely stopped by the compress and bandage. Every thing went on favorably; the bandage was removed on the third day, by which time the wound had healed; and the patient resumed his usual occupation on the fourth day.

Immediately after the operation the patient experienced no difficulty in speaking, and the same has continued since. Upon examining the mouth after removing the bandage, blood was observed beneath the mucous membrane in the line of the submaxillary ducts; this was absorbed by the tenth day, and the patient was completely cured.—*Lancet; Med. Exam.*

Effects of Calculus in the Female Child. By George A. Rees, M. R. C. S.—The following is the only case of the kind I have met with in the female out of nineteen thousand children who have been under my care; I consider, therefore, that if briefly recorded it might be worthy of notice in your valuable Journal.

Ruth Mole, aged four years, was brought to me laboring under retention of urine, the mother stating that the child had not passed any water for two days and nights, and that the bowels had not acted during the same time.

July 12. There is considerable fever; great pain; constant moaning; the head hot, and tossed from side to side; the pulse small and frequent; the tongue dry, and covered with a brownish coating; there is some delirium; the abdomen is

hot and tense; the bladder perceived to be much distended, extending up to the umbilicus; the external organs of generation are inflamed; the clitoris distended; the nymphæ slightly œdematous.

The distress of the child demanding immediate relief, a flexible catheter was introduced, and twelve ounces of turbid urine were drawn off, and an active aperient was ordered.

13. Immediate relief followed the abstraction of the urine, and the child slept for four hours. The bowels have acted twice freely; there is constant inclination to go to stool, and considerable straining, causing the bowel to prolapse. No water has passed since yesterday; the bladder is again palpably distended, and the same state of the external organs perceptible, but the fever is much abated.

The prolapsus ani and the state of the external organs of generation so analogous to what occurs in boys with retention of urine from urethral calculus (in whom erection of the penis with œdema of its integuments are the principal symptoms,) led to the suspicion that the cause of retention in this instance might be calculus, which suspicion was found to be correct by the introduction of a probe into the urethra. It was, therefore, determined to leave the bladder as it was, unless urgent symptoms supervened, in the hope that the pressure of the urine might expel the stone from the passage.

14. The child is much the same in all respects, but the urine has dribbled away in small quantities since yesterday. The stone may be felt with a probe still lodging in the urethra. After a little trouble this was caught hold of by means of a small pair of common forceps, and brought forward to the orificium urethræ, through which its size prevented its coming without violence sufficient to produce laceration; a small incision was, therefore, made, as less likely to be followed by incontinence of urine, and the stone extracted.

16. All symptoms relieved, but there is incontinence of urine.

22. The child is free from all symptoms, the incontinence of urine having ceased for the last four days.

The calculus is five lines in diameter, weighs eleven grains, and is nearly perfectly round. I believe a calculus of any other shape *could* hardly produce such symptoms in the female child.—*Lancet; Med. and Surg. Jour.*

Death by Irritation.—From the Boston Atlas we learn that Henry Cooledge, of Framingham, Mass., recently died under the following singular circumstances. Having shaved the face of his dead father, he soon after used the same razor in shaving himself. Although the father had died a natural death, and nothing remarkable had been observed in the manner of his decease, the face and head of the son began to swell almost immediately after having finished the operation of shaving, and he was himself soon a corpse. The absorption of virus from the dead body, if introduced on the edge of the instrument into the system of the son, seems not to have been there sufficiently long to have circulated, and his death is to be imputed, therefore, according to the writer in the Atlas, to irritation.—*Boston Med. and Surg. Jour.*

Iodide of Potassium. By James C. L. Carson, M. D.—The perusal of the article "Iodide of Potassium," in Pereira's Materia Medica, brings to my recollection a case which occurred in my practice about three years ago. I ordered a gentleman three grains of iodide of potassium in a draught of peppermint water, three times a day. When he had taken the medicine three times he felt poorly; and in the course of an hour after the fourth dose he was attacked with a violent shivering fit, followed by intense headache, heat of skin, constant thirst, quick and very full pulse, and vomiting and purging at the same time. These symptoms were succeeded by great prostration of strength. Notwithstanding the exhibition of demulcents and opiates the purging lasted for several days. The effects of the medicine in this case were so violent that I have little doubt, that if he had taken another dose, his life would have been forfeited. This is the only instance, which I have seen, of the iodide of potassium producing unpleasant effects in doses under ten grains.—*Ibid.*

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PUBLICATION OF MEDICAL BOOKS IN CONNEXION WITH THIS JOURNAL.

We ask the particular attention of our readers to the advertisement which our publishers have enclosed in this number. It sets forth, that, under the direction of the Editors, they propose hereafter to publish, in connexion with each number of the Journal, from 80 to 100 pages of some medical work, so as to bring out, annually, two volumes of about 500 pages each. This addition however will be sent to those alone who desire it, and signify that desire in the manner pointed out in the circular; all other subscribers will receive the Journal *only*. Three classes of medical books will be thus published. 1st. Original, chiefly by the professors of the Medical Institute. 2nd. Translations from the French and German. 3rd. English, Scotch and Irish works, not previously reprinted in this country. The two latter classes will generally be accompanied with notes and additions, by some one of the professors. This enterprise will commence with our 5th volume, on the 1st of January, 1842.

The postage on the works thus published, will be for each volume

of 500 pages, about 37½ cents to those who live within 100 miles of Louisville, and 62½ to those who reside at a greater distance; but the difficulty which physicians, living in remote places, necessarily encounter, in procuring books from the eastern cities, must, we presume, render this method of obtaining them acceptable. The subscription to the Journal thus enlarged, will be ten dollars a year; for which sum the subscribers will receive four volumes, or about 2000 pages of matter, original or recently published in Europe; an amount sufficient, independent of other purchases, to keep him informed on the progress of discovery and improvement in the profession. The volumes of the first year, will embrace an elementary treatise on Pathology by Dr. Drake.

Such is the plan of our publishers; but they will not enter upon it, unless a sufficient number of subscribers should be obtained; and of course they will not make arrangements for its execution, before they hear from the patrons of the Journal. As it is proposed to commence on the first of January next, we respectfully request our readers to give prompt attention to the circular, that the number of the Journal for that month may not be delayed.

PROGRESS OF SCIENCE.

It must gratify the friends of sound and solid science to learn, that the *College of Professional Teachers*, at their late meeting in our sister city of Cincinnati, requested *doctor* Rosenstein, the famous homœopathist, to enlighten them and the good people of that city, with a lecture. Such a thirst for knowledge is highly auspicious. We presume the *doctor* administered to each member of the College, the true homœopathic dose, of a hundred thousandth part of a grain of truth, mingled in a glass of gall and wormwood against the *regular* profession. But why should the College have limited itself to the homœopathists, when the Steam doctors, Negro doctors, Indian doctors, Brandreth doctors, and others were at hand, and ready to expound their respective systems? Such partiality we cannot approve; it is at war with the true democracy of science, and, if persisted in, will undoubtedly bring the College into disfavour with the friends of those improv-

ed systems, which are more numerous than the advocates of homœopathy. In this way the College will render itself unpopular and diminish its influence. Perhaps, however, it has appointed committees to make reports at the next meeting, on those reformed methods; and thus obviated the charge of partiality. If so, very well; but lest it should not have regarded any of the other new improvements as worthy of encouragement, (after contemplating the beauties of homœopathy) we take the liberty of presenting the first rude draft of a preamble and resolutions, to be adopted at the next annual meeting of the College.

Whereas, in the opinion of this College, established to promote sound learning and exact science, the world has been held in bondage for three thousand years, by a succession of men calling themselves the disciples of Hippocrates, who profess to have made discoveries concerning the laws of the human body and the means of preventing and curing its diseases, whereby they have imposed on the unwary, to the great detriment of their constitutions; and whereas a number of original geniuses, in modern times, have made important hygienic discoveries, which are rejected by the aforesaid disciples of Hippocrates, through jealousy and envy of said discoverers, and from malice prepense towards society; and whereas it is the duty of this College to foster neglected genius, not less than to humble the pride of science, therefore—

Resolved, That a committee of seven members, not physicians, be appointed to make a report, to the next session of the College, in favour of the following newly discovered systems of medicine for the people, towit:

1. On Hanemannism, or Homœopathic doctoring;
2. On Mesmerism, or Magnetic doctoring;
3. On Cornstalkism, or Indian doctoring;
4. On Radicalism, or Root doctoring;
5. On Brandrethism, or Pill doctoring;
6. On Thompsonianism, or Steam doctoring;
7. On Guineaism, or Negro doctoring.

Resolved, That said committee be instructed, to warn the community against the pretended discoveries of Hippocrates, Celsus, Morgani, Harvey, Sydenham, Bichat, Rush, and others of like kind, and against the schools of medicine in the United States, where their writings are received as authority.

Resolved, That the members of this College will henceforth, patronize some one of the aforesaid seven wise men; preferring, however, the last, from the well known curative powers of a seventh son.

Resolved, That should any other *College of Professional Teachers*, attempt to forestall this, in the proposed reform of the medical profession, it shall be the duty of the "Executive Committee" to appoint a special meeting of the College, that it may, by early action, not lose the honor of achieving what it is the first to undertake.

Resolved, That in all future meetings of the College, the practisers of the aforesaid seven new systems, shall be entitled to seats; and that such of them as cannot write their names, shall be allowed to subscribe the constitution by making their marks. D.

SULPHATE OF QUININE IN CONGESTIVE FEVER.

Dr. Preston Capshaw, of Madison county, Ala., in a letter of the 30th of September, writes as follows: "I am now living in one of the sickliest spots in North Alabama, where I have learned much on the treatment of fever. We have all grades, from the mildest to the most malignant. The routine practice of many of our physicians, consists in giving large doses of calomel or —— pills, so as freely to evacuate the bowels, to be followed in the first intermission or remission, by liberal doses of quinine. Venesection and the cold dash are seldom resorted to, and when the latter is applied, it is too often without discretion, whereby mischief results to the patient. Emetics, sinapisms and blisters are, also, occasionally used, but the *sine qua non* with the gentleman of whose practice I am speaking, is to disgorge the liver by means of active mercurial cathartics. This method succeeds very well in ordinary cases; but where much congestion is present, or there is a great tendency to it, I think I have seen manifest injury and even death, follow as its consequence. Under the influence of this conviction I was led to pursue a different practice, and the results have been such as to assure me, that in the congestive, if not in other forms of autumnal fever, cathartics are not only unnecessary, but contra-indicated and injurious.

In congestive fever, as you know, there is a great influx of blood

upon the viscera, with cold extremitias, prostration of strength, &c., indicating the patient to be in a chill. This state is followed, sooner or later, for the few first paroxysms, by a partial reaction. My plan in the treatment of such cases, is simply this: when the patient is cold, I direct all my efforts to getting him warm. My means are the cold dash and warm bath alternately, and frictions with mustard, ammonia, &c. When I get them warm, or there is even partial evidence of reaction, I give twenty grains of sulphate of quinine, and repeat it every hour, till four or five doses have been administered. The medicine sometimes produces disagreeable symptoms, such as deafness, blindness, &c.; but I have invariably found my patient better of his fever the next day, after which he continued to mend. When the "fever is broke," if he should be costive, it is well, or, perhaps, in some cases, necessary to administer a laxative, though I find that the great destroyer "black bile" may flow off *spontaneously*, as the patient recovers. I must state, however, that I have as yet pursued this practice in only five decidedly well-marked and violent cases. In two of them I gave no purgative whatever; in two, whose bowels were tardy, I gave castor oil, in one, rhubarb and magnesia. All got well." D.

URTICARIA.

In a late letter from a distant state, a medical friend says—"If you know of any means of cure for *chronic* urticaria, besides those usually laid down in the books, you will oblige me by stating them, either through the Journal or by letter. I have a patient who has had the disease from infancy, and been treated by the most skilful physicians in this part of the country—all to no effect. She is 19 years old, and apparently in good health in all her functions. The eruption makes its appearance more or less every day, and is very distressing. Can it be cured."

The demand of our friend is one which we cannot meet. We can only confess our own inability, and call upon our more skilful brethren to answer the question affirmatively and point out the means.

It has happened to us, to see many cases, both acute and chronic of

this singular malady; the former have readily yielded—the latter for the most part have proved refractory. We have often observed a high degree of nervous irritation connected with *acute* urticaria, never a decided phlogistic diathesis, and we have found the administratisn of large doses of opium or its preparations, followed by an emetico-cathartic, of great efficacy. Bloodletting has not been of much benefit. We have, now and then, seen a compound of nitrate and bitartrate of potash do good. But in *chronic* urtiearia, we have had little success. It has been said to depend on gastric or hepatic derangement, but we recollect the case of a gentleman, who labored under it for many months, during whieh his digestion was good, and the biliary secretion perfect, both in quality and quantity. He suffered most in winter; and the intolerable itching which arose under exposure to cold, was rèmoved by the heat of a warm fire. Years have passed away, during which his general health has been good, but he is still more or less affected with this malady in winter.

We shall be happy to publish any thing that is valuable on this subject. D.

CONSULTATIONS THROUGH THE JOURNAL.

While writing the above, it occured to us, that many consultations and much reciprocal instruction might be conducted, through our monthly. We refer of course to chronic diseases. Cases are constantly occuring of an eccentric or anomalous character, which puzzle the medical attendant, and naturally turn his mind towards his professional cotemporaries. All such might be stated in the Journal, the readers of which could not fail to peruse them with interest, and whoever could, would no doubt bring to bear upon them, the results of his own experience. In this way much fresh and valuable information might be extensively communicated. Whenever cases are thus submitted, they should be drawn up with eare. Fulness, clearness and brevity should characterize them; and while nothing of moment ought to be omitted, nothing unimportant should be introduced. All communications thus prepared will be promptly inserted. They must be subscribed by their authors, but the names will not be published unless requested. D.

ARSENIC SOLD FOR ANTIMONY.—EMPOISONING.

Our friend Prof. J. Warder of Cincinnati College has communicated to us the following fact. A livery-stable keeper in Cincinnati applied to an apothecary for a quantity of what the farriers call antimony, (the well known sulphuret of that metal) and as he supposed obtained it. Administration was made in the usual way by mixing the powder with the provender of his horses. The consequence was that several of them were killed. The symptoms were not noted. A portion of the poison, not exhibited, was brought to the Professor who, on examination, ascertained it to consist of the impure arsenic, commonly called cobalt, or flystone.

Some of the horses were examined after death and exhibited evident traces of gastric inflammation.

We think this a favorable opportunity to put forth a few hints on the state of our establishments for compounding and selling medicines in the West. They are of three classes:—1st. The village and country merchant's dry goods' stores—2nd. The Doctor's offices—3rd. The Druggist's and Apothecaries' shops. The first have grown out of the necessities of a newly settled country; and are now seldom met with in any of our larger towns. The number of articles kept by merchants is generally few; and they are commonly sold in bulk, except tartar emetic and calomel; and therefore dangerous accidents are not likely to happen. The second class deserve a more extended notice. A student is generally the compounder of prescriptions in a Doctor's office, and no doubt he is *sometimes* qualified for the task, at the time it is confided to him. Such, however, is not always the case. The first study to which he is put, is the bones, when it *should* be the medicines he is practically to work among. Having gone through a tedious and too often unprofitable course of anatomy, he makes a superficial survey of physiology, and then takes up a work on therapeutics, or the practical application of medicines—sometimes even a treatise on the practice of physic! After this, there is a reluctant and unproductive recurrence to chemistry, pharmacy, and the natural history and sensible qualities of medicines—all of which should have been studied before any thing else. On this plan, or rather according to this practice without plan, the student passes through his private pupilage, engaged more or less in compounding the prescriptions of his

preceptor, with a most incompetent knowledge of the properties and chemical composition of the articles which he is every day mingling together; and is of course liable to make mistakes. In illustration, we may mention one, which proved fatal. A physician of this state directed a certain quantity of ipecac., or some other medicine, to be mixed with a prescribed quantity of *aqua font.* for a small negro child. Instead of the latter, his student put up *aqua fortis*—the child took it and was killed. Had that young man understood pharmacy and the history and properties of medicinal agents, it is not probable that so serious a mistake could have occurred.

The third class, in most of our cities and larger towns, have, now, in their hands, the preparation and putting up of most of the medicines that are prescribed by physicians; and while the student of medicine generally has the recipe from the mouth of his preceptor and puts it up from memory, the apothecary's clerk has before him the written prescription. On the manner in which this is executed we must say a word. It should be in a legible, open hand, with the name of the patient, the date, and the name or private signature, of the physician, attached to it. How soldom it has these safe and essential requisites, any one may satisfy himself by examining the files of our shops, in Louisville or Cincinnati. If they always had the first, distinct legibility, the matter would not be so bad; but many are so obscurely written, that without a thorough knowledge of medical hieroglyphics, the compounder is liable to fall into egregious blunders. If the physician would arraign the apothecary before the tribunal of public opinion, he should enter it with clean hands. If, as he claims, he is the superior, let him set a good example to his inferior—let him show, on the face of his prescription, that he has thought, at the moment of writing it, of the great necessity of having it correctly understood. He will then have substantial ground to stand upon, in charging the druggist who has fallen into error. Many physicians, morcover, do not read their prescriptions after writing them, by which, mistakes of a formidable kind have passed uncorrected, till their effects were felt by the patient, unless the apothecary rectified them, which has not often happened. While on this prolific subject, we must add a paragraph relative to the language in which prescriptions are written. In the United States where the Latin language is so little cultivated, it is affectation and folly, to write, we should rather say, attempt to write, prescriptions in that language.

Not one in a hundred (any more than ourselves) are capable of writing Latin prescriptions; and if they were thus composed, a still smaller proportion of our apothecarie's clerks would understand them. Moreover, we ask for the advantage of such a practice? We can see none, and wish it were universally abandoned. But we must return to the duties and qualifications of the compounding druggist.

It is the custom of our city apothecaries to take small boys as apprentices and clerks, who are often illiterate, and, always, unacquainted with chemistry and botany, while an elementary knowledge of those sciences, together with a tolerable education, and the age of 15 or 16, should be regarded as indispensable prerequisites. To place a little boy behind the counter of a druggist, as merchants are wont to place boys before their shelves of silks and gridirons, is homicidal; and no physician should sanction it. His own inevitable homicides are more than enough. If he cannot avoid being a principal, he may keep himself from being an accessory, by directing his prescriptions to be sent to shops where none but qualified and careful persons are permitted to handle and put up for use, articles which are the instruments of death not less than of life, when taken in excess. In Europe the apothecary is a man of learning and science—here, too often, he is a mere trader. There, he undergoes a long and laborious apprenticeship—here, he substitutes the probation of weeks, for that of years; and, from the beginning, works among poisons, with as much confidence and unconcern, as a confectioner's apprentice beats up eggs, or licks the syrup from the ends of his fingers. D.

MURRAIN OF CATTLE.

By mistake the name of Dr. John Winans was, in our last number, prefixed to an article on Murrain, written by his partner Dr. John Dawson. It arose from the name of both gentlemen being on the same sheet.

We have just received from Dr. Dawson a letter in which he makes, in reference to that disease, the following remarks;

"I have made no autopsic examinations on Bloody Murrain since I last wrote; but have made many inquiries of our farmers touching

the subject. I find that the estimated *per centum* of loss by the disease, was too high, by perhaps one fourth. My views of its pathology have been confirmed. It is a general practice with those who lose cattle to take out the tallow, in doing which they expose the kidneys, which I am assured are always found "rotten." Mr. Larkins, a man whose veracity is above suspicion, says that in all the examinations he has made for 30 years, he has found the kidneys in that state, with an offensive odour." D.

TENNESSEE LUNATIC ASYLUM.

This institution has been in operation now about eighteen months, but from the following extract from the message of the late Governor of the State, its usefulness would appear to be very much limited by the slenderness of the appropriation made for its support:

"In consequence, however, of the limited appropriation made by that act, it has been found impossible to receive several 'insane paupers,' for whose admission into the institution application was made. It is submitted to your consideration whether suitable provision should not be made for the reception and accommodation of all unfortunate persons in the State for whose benefit the institution was established, and for whose admission application may be made.

"A Report will be made to you during your session by the attending physician of the Hospital, who is by law constituted chairman of the Board of Trustees, containing such information, and making such suggestions, in regard to the condition and future management of the institution, as may be deemed useful in your deliberations upon the subject."

We have had opportunities of knowing that the Hospital is very far from being adequate to the demands of that unfortunate class of paupers, for whose benefit it was mainly erected. Great individual suffering, and as great public annoyance are endured in nearly every county in the State, from the insufficiency of the means of the Hospital to receive insane persons who are too poor to pay their expenses in it. This ought not to be. Tennessee is a State of great resources, and great and increasing wealth. Let her representatives, in the Leg-

islature now assembled, be instructed to provide for the clamorous wants of a class of her citizens who cannot take care of themselves. We hope the intelligent physician who has the superintendence of the Hospital, will favor us with a copy of his Report as soon as it is published. Y.

ELECTRICITY IN NEURALGIC DISEASES.

This subject is attracting much attention, and the medical journals of Europe abound in cases of neuralgia successfully treated by electricity. The forms of its application are various—as galvanism, the electric spark, shock, and aura, magnetism, electro-magnetism, and acupuncture with combined galvanism. Of all these methods, that of the electric-magnetic apparatus, with sponge directors, seems to us the most promising, whilst, at the same time, it is mild, steady, and entirely under the control of the operator as to intensity and duration. In some cases of neuralgia, where the ordinary plans of cure have proved unavailing, this holds out a dernier hope to patients which is worthy of resort. The disease appears to be more common in this country than in earlier times, and especially afflicts the citizens of the larger towns. Some such patients we have now under treatment, by the electric-magnetic machine, and the result of the trials we will lay before our readers in due season. Y.

DEATH OF DR. SATTERWHITE.

The name and worth of this physician are familiar to all who ever passed much time at Lexington in this State, for he was for twenty years engaged in that city in an extensive and reputable practice. We remember him as he was eighteen years ago, a young physician who had gained the confidence of that intelligent community, as a judicious, kind, attentive practitioner and conscientious man. This character Dr. Satterwhite sustained to the time of his death, which occurred on

the 23d of October, suddenly, in consequence of a fall from his horse. The animal became frightened, reared and fell backwards, and in the fall dislocated the neck of the rider. Dr. Satterwhite was a member of the Methodist Episcopal Church, and his life was one of exemplary piety. His example is instructive to the young physician. It proves how much may be done by industry and a virtuous life towards securing the highest popularity in our profession, with its attendant advantages of wealth and independence, unaided by any extraordinary mental endowments. Y.

MEDICAL INSTITUTE OF LOUISVILLE.

The *fifth* class is now assembling at this institution, and promises to be larger than any preceding one. Already about 200 students have reached the city, and if the proportion behind is as large as usual, the class will no doubt reach 250, by the first of December. This is most encouraging success, and must be exceedingly gratifying to the friends of the institution. No Medical School in the country has grown with such rapidity, and with the excellent facilities it possesses for imparting a thorough practical knowledge of medicine, it can hardly fail to maintain a high rank among the American Schools. Valuable additions were made to the library and apparatus, by Professor Caldwell, during his recent visit to Europe, all of which were received before the opening of the present course.

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THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

DECEMBER, 1841.

ART. I.—*Observations on the epidemic Yellow Fever of Natchez, and of the South-west.* By JOHN W. MONETTE, M. D. &c., of Washington, Mississippi.

(*Continued.*)

GENERATION OF YELLOW FEVER MALARIA.

The advocates for the local origin of Yellow Fever in the United States, are not unanimous as to the exact circumstances under which the malaria, or infectious air of Yellow Fever is generated. The only point on which they appear to agree, as a general principle, is, that it is the result of the solar heat upon some putrescent matter. This may be any variety of animal or vegetable matter, in a state of decomposition; or it may proceed from both those classes of matter combined; or it may be the combined gases from each of these separately, which produces the malaria necessary to induce epi-

demic Yellow Fever. Rarely do we find any two of the advocates for the local domestic origin, who agree as to the *particular kind* of animal or vegetable matter, which is most productive of the miasm necessary for producing an epidemic. Some ascribe it chiefly to one kind; others to a different kind. Some require the aid of vegetable decomposition, with *marsh-miasm;* others can, satisfactorily to themselves, show that it is the product of *animal* matter chiefly.

The advocates of this doctrine range themselves under one of each of the following sources of Yellow Fever Miasm:

1. Animal putrefaction.
2. Vegetable putrefaction.
3. Marsh-miasmata.
4. Sensible changes in the atmosphere.

Others ascribe the disease, when epidemic, to some peculiar atmospheric constitution, or some mysterious combination in the elements, entirely beyond our comprehension, the *to thion of Hippocrates.*

We propose to note each of these briefly, and to pass on to what we consider a more rational and consistent explanation of the origin and production of Yellow Fever malaria. We design to show that none of these local causes are adequate to the production and dissemination of this epidemic malaria; and that we must extend our researches beyond such matters if we wish to arrive at truth, and to protect our ports from this pestilential disease.

1. Animal Putrefaction.—Those who look to this source, conceive that this poisonous miasm is thrown off into the atmosphere from either of the following animal matters, viz: From putrid or putrescent fish, putrid bacon or pork, putrid animal carcasses near cities,* from putrid oysters in cellars, or in piles in the open air, from putrid hides in ships and on the wharves, from the opening of old burying grounds, &c.

That none of these are *essential* sources of Yellow Fever miasm, has been established almost beyond controversy.

*Dr. Cartwright, of Natchez: See Medical Recorder, vol. ix, p. 5 to 10 and p. 228.

Dr. Bancroft, in his great work on marsh-miasm and Yellow Fever, has adduced an array of facts and evidence incontrovertible, proving that animal putrefaction may exist to any extent, and under *all circumstances*, without in any wise exciting Yellow Fever; and, consequently, that it is not a *necessary* source of Yellow Fever miasm; and which, of course, must proceed from some *other cause.* He has shown, conclusively, that this species of putrefaction is *not a frequent* concurring circumstance, where Yellow Fever has originated He has also shown that animal putrefaction, to a great extent, has existed in cities and other localities, under the most favorable circumstances, for the production of this miasm, according to the putrefactive theory, and still no Yellow Fever has been produced either sporadically or epidemically. He has further shown that putrid pork, putrid fish, putrid bacon, &c., will not generate any pestilent miasm. Nor will dead bodies of any kind, in a putrescent state, produce Yellow Fever, or any other malignant disease, not even human bodies putrefying by hundreds on the burning sands of Egypt. Neither is it produced from the intolerable stench exhaled from factories of glue and catgut; nor from tanneries, slaughter-houses, tallow-chandleries, &c. Indeed those engaged in these avocations are generally blest with the most perfect health; and their business appears to confer a partial immunity from ordinary disease.

These facts are incontrovertible. They establish the doctrine sanctioned by experience, that the miasm or morbific malaria, or the infection of epidemic Yellow Fever, whatever be its nature and constituents, is not in any sense connected with, or dependent upon the *fœtor* of animal putrefaction in any of its stages of decomposition.

Again it has been placed beyond doubt, by Dr. Bancroft and others, that Yellow Fever infection has been generated, or accumulated abundantly in ships at sea, where no putrid matter, either animal or vegetable have existed as a *possible* source. A case of this kind in point is found in the United States brig "Enterprise," more particularly noted hereafter. On the other hand there are towns and ports, within the

tropics, where putrid vegetable and animal matters abound, in combination, with the offensive effluvia from filthy and muddy bottoms of shallow harbors, and yet the people of these places enjoy almost uninterrupted health. The town of Campeachy is an example hereafter cited.

We shall show also in some of the most destructive epidemics of Natchez and other south-western towns, that animal putrefaction had no agency whatever in its production. In fact, that putrefaction, in any form, is not an essential agent in producing epidemic Yellow Fever.

2. VEGETABLE PUTREFACTION, OR DECOMPOSITION.

Those who ascribe it to vegetable effluvia, trace it to putrid coffee, putrid potatoes,* putrid oranges, rotten corn, putrid sour-krout,† sour porter in warehouses or near the wharves.

That this is not an essential cause of yellow fever miasm, is proven by the same array of facts and arguments presented in the work of Dr. Bancroft, against animal putrefaction.

Vegetable putrefaction, of the most offensive kind and in the most extensive degree, has occurred without producing a single case of yellow fever in those exposed to the effluvia. On the other hand, the most desolating epidemics have prevailed where no mass of vegetable putrefaction could be found.

In every county and settlement throughout Mississippi and Louisiana, how often do we find hundreds of bushels of cotton-seed in a rotting state, exhaling its intolerable stench, while no disease of any kind, much less yellow fever, is produced in those daily exposed to its influenc? These immense accumulations of decaying cotton seed are found on almost every plantation, exhaling a most offensive fœtor, to which every soul on the plantation is more or less exposed during the burning suns of summer as well as after the rains of

* Dr. Rush: See Medical Inquiries.
†Dr. Cartwright: See Medical Record, Vol. 9, p. 226.

spring and autumn. Yet we never have known, or heard of any case of disease, much less yellow fever, traced to such source.

For many weeks before the epidemics of 1837 and 1839, in Natchez, the most zealous advocate of vegetable origin, did not even suspect any matters of that kind; for nothing of the kind existed about the city, as *all admitted.*

On the other hand, after the great tornado of May 7th, 1840, the whole city of Natchez was filled with the ruins of demolished buildings, and every kind of matters covered up in the masses of ruins within the city: the forest growth in and about the city was a scene of destruction; and immediately opposite Natchez, a large grove of cotton-wood and other trees, covering probably near sixty acres, was entirely torn to atoms, covering the whole surface to the depth of many feet, with the mass of timber, trunks, branches and foliage, of a most luxuriant growth. This was in the very midst of the process of vegetable decomposition in July and August following, after the subsidence of the river inundation.

Besides this, at the base of the bluff near the Natchez landing, there was a pond covering about ten acres, with a common depth of 3 or 4 feet water. This pond was filled to the bottom, and for a foot above its surface, with ten thousand fragments of demolished houses, with carcasses of animals, and even men who were supposed to have been buried under them. In this condition it remained, frequented by hundreds of people every day, until October, exposed to all the effluvia which could be exhaled by a powerful sun for nearly four months. With all these extraordinary circumstances, Natchez enjoyed uninterrupted health through the whole season; contrary to the confident prediction of a most desolating yellow fever epidemic, by the advocates for the origin from such causes. New Orleans was free from yellow fever that autumn.

In ordinary seasons, when vegetable decomposition, as a matter of course, would progress more rapidly, with alternate showers and sunshine, we never have any apprehension of

yellow fever in Natchez: but when all moisture is dissipated from the surface of the earth, and when vegetable decomposition necessarily ceases for *want of moisture*, then yellow fever begins to make its appearance, if at all. Yet the yellow fever of Natchez has been ascribed at different times to diverse vegetable matters, because once or 'twice such matters were found soon after yellow fever made its appearance as an epidemic.

3. MARSH MIASMATA.

Those who ascribe yellow fever to marsh-miasmata, have traced it in imagination; to the exhalations from stagnant water in marshes; to the effluvia from marshy grounds, when all moisture is nearly dissipated, and the dried surface begins to crack open; to the exhalations from mud and filth in the shoal harbors, or on the slimy banks, and battures of great rivers; to common city filth in sewers, back yards and alleys; to loose earth recently thrown up from beneath the surface;* and when these are wanting, to whatever their fancy may suggest. All these we hope to show are *non-essential* in the yellow fever epidemics of Natchez.

Dr. Bancroft, in his great work on yellow fever, has labored hard to prove that *marsh-miasm* is the true and essential cause of yellow fever. On this point his labor has all been in vain. The experience of thirty years since repudiates his doctrine.

We find from medical records too numerous to cite, that this terrible disease in the West Indies, prevails equally in the vicinity of marshes, and on the most baren rocks, where no marsh is near. We find it equally prevailing on high and low situations, upon the Natchez bluff, 300 feet above tide, and on the low alluvions of Charleston and New Orleans, scarcely above high tides; on the sandy beaches of Mobile and Pensacola, and upon the barren rocks of Curacoa in the West Indies,

*Dr. Menvill: North American Journal of Medical Science, vol 1, p. 1 to 20.

and of Lisbon, Cadiz, and Gibralter, in Europe. We find it likewise prevalent on the deltas of the Mississippi, Oronoco, and the Amazon.

On the other hand, we find in many of the low marshy regions of Louisiana, in Attakapas, Terre Bonne, La Fourche Interior, and about St. Augustine, in Florida, the most healthy population of all the South, where longevity is proverbial,* and Yellow Fever is unknown.

In the West Indies it is endemic all the year in the *commercial ports* on the coasts, while it is unknown in the *interior* towns of the islands. It is equally unknown in the Southern towns of the United States, where there is no direct trade with West India, or infested ports.

The most extensive marshes in the Southern portion of the United States, are as free from Yellow Fever as are the pine hills of Mississippi and Alabama. This is confirmed by all experience in the extensive plantations which everywhere spread over the Mississippi bottoms.

4. SENSIBLE CHANGES IN THE ATMOSPHERE.

Those who ascribe epidemic Yellow Fever to this cause, have conceived that the disease was produced by a dry and heated state of the atmosphere; or by moisture in the air at a high temperature. Professor Caldwell contends that the predisposition to Yellow Fever is induced by a continued mean temperature of 80° Fahrenheit, for forty days successively.† Others believe that sudden vicissitudes, from hot to cold, and the reverse, produce the epidemic constitution of the air. Others ascribe it to the electric condition of the air as indicated by the amount of thunder and lightning which is observed during such periods.

That this disease does not originate essentially from a *humid* or *arid* state of the atmosphere is clearly shown by the

*See Dr. Cartwright on Jussiuea Grandif., West. Jour. of Med. and Surgery.

†See Med. and Phys. Memoirs, Lexington, 1826, p. p. 141, 142, &c.

whole history of Yellow Fever epidemics. This disease has been epidemic in cities of the United States and Europe as well as in the West Indies. It has made its first appearance in Philadelphia, in the hottest and driest weather, and it has begun to spread in New Orleans, *after* a dry summer, while the earth was washed with showers almost every day. It has likewise made its first appearance in Natchez in the most hot and sultry condition of the air, after the greatest drought throughout the whole State, and it has spread and continued to prevail through all the vicissitudes of weather above a temperature of 40° of Fahrenheit's thermometer. It has also begun to spread in Natchez and in New Orleans under all these vicissitudes of weather. It has prevailed in these two cities after every variety of weather during the spring months; after a wet and dry spring; after a late cold spring, and after an early and warm spring.

It prevails at times in *commercial* ports where the air is either habitually dry or humid; no less on the dry and parched shores of Curacoa, than on the flat alluvial marshes of New Orleans. But in all places where it has ever prevailed as an epidemic, it has been after a long dry oppressive summer; and this is especially true in relation to its epidemic visitations in the United States.

Dr. Peixotto informs us that the Yellow Fever is endemic in the island of Curacoa during the year, at all times and seasons; but that it prevails more especially in the "*calm and sultry months;*" that "*new comers* from Northern latitudes are its *appropriate subjects;* the *natives* and *seasoned inhabitants being exempt from its attacks.*"* He moreover informs us that "it never assumes an epidemic character unless after the arrival of large numbers of *northern strangers* during the *sultry* months of the year."

On this island, situated under a vertical sun, the climate is hot, but the air of the island is proverbial for its *dry elastic* qualities. He informs us, "the air is *pure* and *dry*, and sel-

*See New York Med. and Phys. Jour., vol. 1, p. p. 411, 412, &c.

dom, or never, darkened with mists and fogs, so frequent at the north;" that "during the droughts which are common, the leafless desolation of winter reigns under a tropical sun; ordinary wells are exhausted; animate and inanimate nature suffers under the burden, and seems nearly ready to waste away and perish."* On this island there is no marsh and scarcely a living stream of fresh water.

This is one of the islands where Yellow Fever is *indigenous;* it is also *indigenous* to *certain ports* in numerous other islands in the Caribean sea, and in the Bahama and other groups, together constituting the West Indies, and the Great Antilles. Here is the proper orgin of the American Yellow Fever.

The views of Professor Caldwell, before alluded to, as to an unremitted mean temperature at or near 80° of Fahrenheit, approach nearer the true cause, than any thing we have seen. This degree of mean temperature, provided the atmosphere be calm and sultry, is requisite, to a certain extent, to prepare the atmosphere of a port or city for the prolific spread of *yellow fever infection*, when once introducd. But in the United States, this degree of mean temperature has been witnessed, where no yellow fever has been produced or existed in any condition; whereas we know that yellow fever has prevailed as an epidemic, *un*preceded by a mean temperature of 80° for 40 days. Our own city of Natchez will furnish the facts without going further.

According to the meteorological table given by Dr. Parlee in his account of the yellow fever of 1817 and 1819, we find as follows,† viz.: That the *mean* temperature of July and August for sixty-two days, in the years 1814, 1816, and 1818, was steadily from 80° to 83°, and yet no yellow fever occurred in Natchez in either of those years. In the year 1817, the mean temperature during July, for 31 days, was 80°—and during August, for 31 days, it was 77°—during the month of September, for 30 days, the mean temperature was

*See New York Med. and Phys. Jour., vol. 1, p. p. 398, 400.
†See Chapman's Med. and Phys. Jour., vol. 3, p. 17, &c.

only 73°—and yet the yellow fever prevailed with great mortality, having become epidemic not until the 28th of September. Again, in the following year of 1818, the mean temperature during the months of July and August, was for each, 82°—being 60 days steadily at 82°—and yet no yellow fever appeared in Natchez that year. Again in the following year of 1819, the mean temperature of July and August was for each, 79°—being for 62 days. For September following, the mean temperature was only 75°—and yet the yellow fever prevailed with great mortality; having become epidemic about the middle of September.

We might cite authority to any extent to show that the same state of atmosphere has existed under similar circumstances elsewhere. But we will make only one more reference to the tables of Dr. Tooley of Natchez, and he is proverbial for his accurate observations. In the year 1824, the mean temperature for July was 86° for 31 days; and for August 82½° for 31 days; thus giving an average mean heat of 84°—yet no yellow fever was known in the city. In the year 1825 the mean temperature for the month of July was 81° for 31 days; and for August 83½° for 31 days. Thus the general mean temperature was up to 82° for 62 days. This year the yellow fever prevailed with great violence as early as the 20th of August, or after 52 days of that mean temperature.

Thus it would appear, that although a continued high temperature is a necessary circumstance in causing an epidemic yellow fever, that *something else* super-added is requisite. In the year 1824, there was a less number of rainy days in August than in August of 1825*—so that a deficiency of rain is not the cause exclusively.

If it were owing to a deficiency of moisture in the air, this could easily be obviated by watering the streets, repeatedly, as often as evaporation was complete. *Heat* is necessary to the generation and dissemination of yellow fever infectious

*In 1824 there was rain 12 days in July; 9 in August. and 5 in Sept.
" 1825 " " " 12 " in July; 11 in August, and 5 in Sept.

air; but heat, if attended with much wind and agitation of the atmosphere, will not generate and diffuse this infectious air through a city.

At certain times there certainly is more or less of a general "epidemic constitution of the atmosphere" over an extensive scope of country. This peculiar condition does, doubtless, predispose the population in crowded cities and ports to certain grades of fever, and to yellow fever especially. But as to yellow-fever "epidemic constitution," we believe there is nothing very peculiar; nothing that can properly be called the *to thion* of Hippocrates, or the "*seminarium e cælo dimissum*" of Diemerbroeck. We believe that it is simply a condition of the air, which we can reasonably conceive of; and concerning which we may safely predicate a course of conduct, which will prevent, or protect a city from, an epidemic yellow fever.

This is simply a hot, sultry condition of the general atmosphere, whereby the circumscribed air of a town or city becomes charged with human and other effluvia, which become more cencentrated by the absence of proper ventilation and change of air, until it becomes a fit *nidus*, or receptacle, for the reception and dissemination of what is properly *Yellow Fever infection.*

YELLOW FEVER IS A COMMERCIAL DISEASE.

This is a point already established, and it is necessary here only to illustrate that point from authority and by exemplification.

Yellow Fever, as an epidemic, is a disease peculiarly confined to seaport towns and cities in the United States; or to those places contiguous to which it has been transported in one form or another. It is found prevalent chiefly in seaport towns and cities in the Southern portion of the United States. In those maritime towns, which carry on *no trade* with the West Indies, or with infected cities near the Atlantic seaboard, we find the people are exempt from this malignant dis-

ease. The interior towns which, by their location and natural circumstances, are debarred from direct water communication with the large commercial ports, and, from the West India trade, are uniformly exempt from all appearance of this disease.

So true is this position, in the United States, that we scarcely deem it necessary to confirm it by the citation of authority. The whole history and records of the medical profession, relative to the appearance of this disease as an epidemic, show conclusively that its ravages have been primarialy in commercial ports, where there are frequent arrivals of vessels from West India ports and seas. Where it has appeared in towns which were not ports it can be shown that the disease was transported thither by persons already infected or by other means.

As Dr. Ramsay,* of Charleston, remarks, "Yellow Fever is eminently the disease of cities." It proceeds from an atmospheric contamination, which is perfectly *harmless* to natives of the West Indies, and to those who have become seasoned or acclimated to it; but is poison and death to strangers with northern habits and constitutions.

Dr. Rush, with all his zeal to establish the local origin of Yellow Fever miasm, from putrescent vegetable matters, and from city filth, could not resist the evidence, forced upon him, that ships sometimes contained in their holds, a poisonous air which could and often did produce yellow fever about the wharves. Pressed on every side by such indubitable evidence, it is surprising to what additional sources of local effluvia he resorted, rather than abandon his favorite theory of local origin. After the epidemic of 1793, which he ascribed to putrid coffee, every visitation presented new apparent sources of miasm, as if to show the fallacy of his theory. Such were the diversity of circumstances, under which subsequent epidemics appeared, that he was compelled, in order to sustain himself, to *make numerous additions* to the former list of causes. To adapt his theory to the changing *phases* of circum-

*See Med. Repos., vol. 4, p. 100.

stances, he is compelled to admit the *combined influence* of docks, sewers, filthy gutters, filthy yards and cellars; also every variety of animal and vegetable putrefaction, and, lastly, partially to admit, to a certain extent, the *real source*, which he denominated "*the foul air of ships*," diffusing itself into an atmosphere vitiated with exhalations extricated by "*great solar heat.*" Not only this, but he was obliged to deny the peculiar character of the disease, and gave it the name of "Bilious Yellow Fever."* With such arguments did he lead the judgments and prejudices of the people of Philadelphia, and of many theoretical physicans.†

Numerous instances were presented in the little trading towns and ports on the Delaware river and at different points on the Chesapeake where yellow fever had been introduced, without the sources to which Dr. Rush ascribed it in Philadelphia, and in which he was obliged to admit that "*the foul air from the ships acted as an* EXCITING CAUSE." This ground was taken by those of the same school; and they admitted and contended that this "*exciting cause*" was frequently introduced in the vessels: and recommended such vessels to be quarantined, &c. Yet they still adhered to their former belief that this was not *contagion*, which appears only a specious term to cover their defeat. Dr. Rush finally was compelled to admit that a virulent infection could be, and had been, introduced by ships in the form of "*fomites*" in clothes, bedding, and in trunks, boxes, &c.

The same doctrine was advocated by "The Academy of Medicine, in Philadelphia." In a letter to Gov. Mifflin, of Pennsylvania, Dr. Philip Syng Physick, the President of the Academy, by order, unequivocally admits, and contends, that the yellow fever of 1798, in Philadelphia, was in part to be ascribed to "*the foul air discharged* from the ships Deborah and Mary," from St. Domingo—which island they left respectively on the 18th and 29th of July. Again he declares: "We

*See his "Observations on Yellow Fever," addressed to the citizens of Philadelphia, in 1799, A. D. Also Med. Repos., vol. 3, p. 294–5.

†Also, Med. Repos., vol. 6, p. p. 156–7 and 162.

are the more determined in our opinion of the foul air of the Deborah and Mary, being the cause of many cases of our fever, from *similar cases of fever having been often produced* from similar causes; *instances of which* we mentioned in our letter to you last year."* Again he says: "To guard against *the frequent source of yellow fever*, from the *noxious air in the holds of the vessels*, we recommend the unlading of such vessels, as contain cargoes liable to putrefaction, and the discharging of the *ballast of all vessels* at a distance from the city, during the months of June, July, August, September, and October."†

In this and numerous other instances which might be cited the fact that vessels do, and have repeatedly brought yellow fever into ports and trading towns along the seaboard, is clearly admitted by Dr. Rush and other distinguished advocates of *local origin;* the fact of *importation* is established by their own testimony. Yet they rest their whole argument in the controversy upon the unimportant question: whether this pestilential air is solely the result of *human contagion*, or *personal infection*, in contradistinction, to an infectious air produced by certain natural causes?

To be clearly understood as we progress in our remarks, we conceive the following to be a good definition of *contagion* and *infection*, viz:

Contagion is a poisonous material, capable of exciting a peculiar disease in healthy bodies exposed to its influence; and emanating with *that capacity* or power, at all times and under all ordinary circumstances, from a body labouring under that peculiar disease.

Infection is some noxious gaseous matter, capable of exciting certain kinds of fever, *and not emanating in that form;* having the power of exciting the disease, from some properties assumed after it had emanated from a diseased body. Such is the infection of yellow fever.

Whether yellow fever can be introduced and disseminated

*See Medical Repository, vol. 2, A. D. 1800, p. 327 to 331.
†Ibidem.

in a healthy port by vessels from infected West India ports, is a point which many yet deny. The evidence, however, in favor of importation is clear and conclusive, to those whose judgments are open to impartial testimony. There is a certain condition of atmosphere in cities and ports at times in the United States, when yellow fever infection will *not* readily spread and produce an epidemic. This is when the air is too pure, or too cool to disseminate the infection from a single point. There are other conditions of air in towns and cities, during the hot sultry season of summer and autumn, when this infection has spread rapidly from one or more points, and speedily induced an epidemic. These facts are well established. Even Dr. Rush, and many of his cotemporary disciples in the doctrine of domestic origin, admit that vessels have become thoroughly infected, and have communicated yellow fever to those about the wharves where they laid. True they contend that this infection was produced by some putrescent matters in the vessel or upon the wharf. But as to the fact of *the vessel being infected*, they entirely agree. If one vessel become infected, a dozen may. If one vessel can spread a malignant disease in a certain number of the population, a greater number of infected vessels may certainly spread that disease *more extensively.*

In adducing authority on this point we claim the full weight of their testimony with all impartial inquirers—because we have been careful to exclude the testimony of those who rank with contagionists. We have been careful to select the facts and admissions of those who are advocates of the theory for the local and domestic origin of yellow fever epidemics.

All testimony tends conclusively to establish the point, that ships, which have been long at sea in tropical latitudes, have occasionally become thoroughly infected with the miasm or infection proper of yellow fever, either while at sea or while in some West India port; that this infection has become so concentrated as to produce yellow fever in its most aggravated forms, in those who have gone aboard from our shores;

that such persons have taken genuine yellow fever and died with it, in five or ten days, after they first breathed the infected air of the ship, although at that time none of the sailors or hands on the ship, were laboring under that disease. In this manner doubtless, in some instances, has yellow fever begun to prevail in sea-ports, among the many who daily, unconscious of the infection, visit such ships while in port. In this manner, in many instances, have the first twenty or thirty cases been traced to intercourse with an infected ship, or to goods from the same. These first cases are generally persons near the wharves, draymen, day-laborers, and others who are engaged in assisting to unload the cargo. It is perfectly immaterial whether the ship brought the infection from a *foreign port*, or generated it during her voyage. If the air in her hold can be disseminated about the wharf, or even if it will cause those who visit the ship to die of yellow fever, it certainly is an *imported* disease to those who suffer.

A ship can certainly become infected, and much more completely than a house, or a district of a city. On shipboard, the air below is necessarily close for want of ventilation. We will not travel over all the mass of testimony which might be adduced: but will cite only a few instances in our own country, which are conclusive: for one unquestionable case, is as amply illustrative of the principle, as twenty.

Dr. Tully,* one of the most scientific physicians of Connecticut, gives an account of a number of cases of yellow fever at Knowles' Landing, in August, 1796. This is a village on the Connecticut river, about six miles below Middletown, containing a population of about two hundred souls, and situated on a steep declivity, with spacious and airy streets, and not crowded with houses. The number of cases that occurred at this place was eleven, of whom nine died. Every case was clearly traced to communication with a vessel which had recently arrived from Havana, on board which one of the sailors had died with yellow fever on the voyage. The whole number of cases occurred and terminated in the

*See New York Med. and Phys. Jour. vol. 1, p. 153–8.

course of a fortnight; for the alarm excited by the appearance of a malignant disease among them, caused a complete and speedy desertion of the village, and non-intercourse with the ship. This village has always maintained the character of uncommon salubrity. Up to the arrival of the infected ship, no disease of any kind prevailed; and immediately on the ship being abandoned by the inhabitants, the disease ceased. The infection on board this ship was not generated by putrefaction of either animal or vegetable matter, as none existed on board; and Dr. Tully declares that she was perfectly clean; no such matters were found in the town, or suspected by any as the cause of the disease: the ship was the undoubted source, and none were attacked but such as had been on board. In this case had the weather been such as generally *precedes epidemic* yellow fever; and had the inhabitants not fled, but remained, and continued their intercourse with the infected ship, the town would doubtless have been visited with *epidemic yellow fever.*

Dr. Tully informs, us that many other cases occurred at the different places at which this vessel anchored in ascending the river, and always in those only who had been on board. He also informs us, that, for the last twenty-five years, scarcely a year has passed, in which one or more similar cases have not appeared at different points on the Connecticut river; all of which are clearly attributable solely to intercourse with vessels from the West Indies, or from Southern ports of the United States.

Dr. Bayley,* health officer of the port of New York, gives an account of a number of cases of yellow fever which occurred in the autumn of 1821, at the "quarantine establishment," on Staten Island, six miles below the city. From the 8th of September until the 7th of October, twenty-nine cases and twenty-one deaths occurred; of the latter fourteen had black vomit. These were clearly traced to intercourse with infected vessels then lying at the wharf, and recently from the West Indies and New Orleans. The health of those about

*New York Med. and Phys. Jour., vol. 1, p. 27, 28, &c.

the "quarantine establishment" never was better, both immediately before and after these cases: nothing like bilious or remittent fever had been seen: neither marshes, nor filth, nor vegetable putrefaction existed any where in the vicinity. The cases were traced clearly to the ships, and to them alone; and each case occurred just five days, and one on the sixth day, after the particular exposure to the infected air of the vessels. A washerwoman and her two daughters took the disease, without having been on board the vessels. They contracted their disease by handling and washing the foul clothes and bedding of four men who had died of yellow fever, about four days previously. The bedding and clothes had been thrown aside until taken to her to be washed. She took the disease just five days after she had handled the clothes, and died on the fifth day of her disease; her daughters were attacked afterwards. In this case a favorable condition of the air would, no doubt, have caused it to become epidemic.

Dr. Bayley* also gives us the case of the United States' brig Enterprise, infected with yellow fever, at the "quarantine ground," in 1822. This vessel was perfectly clean, and free from any animal or vegetable putrefaction. She arrived from Havana with ten cases on board; and immediately the sick were removed to the hospital, and the well were quartered on shore to avoid the infected air of the vessel. She was then thoroughly cleansed, ventilated, washed, and whitewashed with lime, in a tenfold degree; lime was slaked in her timbers in large quantities. Yet, after this purification, she retained the infection, and communicated the yellow fever to those who afterwards went on board; of whom five, out of eleven, died. The process of purification was again instituted. Artificial ventilation with windsails was constantly performed; water to the depth of several feet, was daily let in and pumped out: lime was strewed in the hold, and her timbers thoroughly whitewashed, and still the infection was not destroyed until cold weather. In this case, her own crew having taken

*New York Med. and Phys. Jour., vol. 1., p. 426–7, &c.

the disease first, the people from shore avoided the vessel and escaped the disease.

Another case is given by Dr. Kollock, and quoted by Dr. Rush, in which a vessel at sea, in tropical latitudes, engendered on board a malaria which finally produced yellow fever. This is the case of the United States' frigate General Greene, which became infected while on a cruise in the West India seas, and did not become disinfected until she reached the cold climate of Rhode Island. During the time she retained the infection, every kind of cleansing, fumigation, and ventilation, were used freely, but ineffectually. In this case, the vessel was new, and perfectly clean and healthy, when she left Newport, Rhode Island, on the 3d of June, 1799. She had on board a complement of two hundred and fourteen souls besides large quantities of provisions for a cruise in the West India seas. Having encountered a storm, soon after she put to sea, the vessel became leaky, and a noxious malaria was generated, during a subsequent period of unusually *hot weather.* At first, and for some days, the disease assumed the symptoms of a violent bilious fever, with no deaths until they arrived in the port of Havana; when immediately several cases began to assume symptoms of *yellow fever.* "After this period," says Dr. Kollock, "three, four, and five new cases occurred daily; and the violence of the symptoms seemed to *increase with the multiplication of cases,* during the six days she lay in port."* Cases and deaths continued to multiply daily, until she passed the capes of Virginia, when the disease became gradually milder. The whole number of the cases was forty; and twenty of them died. In this case, an infectious air was generated in the ship's hold, by the number on board, during the hot weather and leaky condition of the vessel; and it appears that the "leaven" of infection was superadded at the port of Havana, either by persons going on shore, and contracting the disease there, or by the introduction of infected air, &c. Many other cases might be cited, in

*Med. Rep., vol. 4, p. 3.

which infection has been generated and carried in ships into ports, and there produced yellow fever in those from shore who entered on board, although the crew of the vessel, being acclimated, remained free from disease.

We will here make a few remarks again upon the generation of miasm on board ships in tropocal climates. The confined air in the holds of ships is more likely to be exhausted by respiration, and charged with human effluvia than even a city; especially where there are many souls on board, who are often confined below on account of storms and winds. In them thorough ventilation is extremely difficult, and the temperature is almost constantly up to the miasm point. The infectious air is thus rapidly formed in many cases, and in this state, a vessel arriving at a port where yellow fever prevails, will be ready to receive the leaven from the infected air of the city, either by the crew visiting the infected districts on shore or by the introduction of the infection in the form of *fomes* in goods. The United States frigate General Greene, before referred to is a good illustration.

The temperature at sea in tropical latitudes is seldom below 80° of Fahrenheit, and often from 90° to 100° according to the degree of reflection and concentration of the sun's rays. By a register kept by Dr. Thos. Rodman,* embracing thirty observations between the first of November and the fifth of December, at 12 o'clock, M., each day, between latitude 22° north, and 22° south, it was ascertained that the lowest temperature of the air was 79° and the highest in the shade 86°. The lowest temperature of the sea below the surface was 78°, and the highest 84°. The mean temperature of the air during that time, at 12 M. was 83°, and of the water 81.° Thus the temperature within vessels while in the tropics cannot be low enough to *destroy* or neutralize miasm, much less infection: the former requiring a temperature of 50° and the latter of 32° Fahrenheit. Thus however slowly it may be generated, it continues to accumulate until the ship enters a northern climate. This register was kept during a cool healthy sea-

*Vide Coxe's Medical Museum, vol. 1, p. 83–4.

son, when no disease was generated on board by hot, calm, and sultry weather; of course a much higher temperature in these respects is often experienced on board ships in the tropics; and the miasm and infectious air is often generated where no animal or vegetable putrefaction exists.

Infected vessels *do not always indicate their condition* by the disease developed *among their own crews or hands.* These may be perfectly seasoned to yellow fever miasm, by acclimation; or they may be natives of tropical latitudes, where yellow fever is indigenous, and consequently they may be protected against its influence by that kind of immunity.

Vessels have been known to leave West India ports, and after a long voyage, to arrive in ports of the United States, with all hands on board, in perfect health; and when none on board had suffered by yellow fever during the voyage. In these cases the infection had been carried into the hold of the ship in the form of *fomites*, by goods, beds, or other kind of freight, and, there confined, during the voyage in a close hot atmosphere, had become active and virulent. The hold being appropriated for freight alone, of course would be frequented little or none by the crew during the voyage, and would remain closed until the vessel arrived at her destined port. But so soon as she begins to discharge freight, the infected air is stirred up; and the hands and others passing into it are suddenly attacked with yellow fever and die. This has occurred too where no stench or putrid smell of any kind existed.

Dr. Bayley, for many years health officer of the port of New York, says: "I have known *many vessels* to arrive from ports where yellow fever prevailed, that were free from any unusually offensive smell, and their cargoes in a *sound state:* also vessels in *stone ballast*, from ports similarly circumstanced, *which were infected with the same contaminated air, that existed at the place they sailed from*, without its appearing to proceed from any foul materials generating it on board such vessels, that could be detected by the senses. The evidence of such infection was manifested not only by the crews and passengers, having died on board after leaving port; as these may

have contracted the disease before they sailed; but such of the crews as had apparenly *resisted* the *malignant iufluence of such infected port*, sickened *and died of yellow fever, after they began to discharge the cargoes*, (which were in good condition) at the healthy port."*

In this case the infected cargoes confined in the holds generated a virulent infection throughout the hold of the ship during the voyage through the tropical seas. The crews and passengers not visiting the *hold*, of course escaped the disease, until the hatches were opened in the port of destination. Dr. Bayley states that "*in other cases vessels were infected;* but that the crews being seasoned, *or acclimated*, have arrived direct from an infected port, and *remained healthy* during the voyage, and *during the quarantine;* the vessels being apparently in proper condition, and having no sickness on board, nor any sensible bad air; but so soon *as other hands* came to assist, or to be on board, *they sickened and died of yellow fever.*"†

Again Dr. Bayley declares that on the other hand he has witnessed at the New York quarantine ground, "that vessels have arrived from *healthy places* in tropical regions, with cargoes of *animal and vegetable matters in a state of putrescency*, with great foulness and the *extrication of much stench;* yet *no disease* existed among the crews or in those who assisted in discharging the cargoes."‡

Thus sustaining the doctrine, that the miasm or *infection of yellow fever* on *ship-board* as well as in cities and towns, is *entirely independent* of any *offensive smell*, or of any offensive or putrescent matters; and that those articles which throw off a putrescent stench are, in themselves, destitute of any power to produce yellow fever.

It is a point susceptible of proof, that towns and cities, even those in tropical latitudes, and upon the maritime borders of

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*See Dr. Bayley's letter to Dr. Townsend, in Townsend on Yellow Fever, p. 92.

†See Townsend on Yellow Fever, p. 93.

‡Ibidem, p. 93–4.

the U. States, *are not liable* to or endangered by yellow fever epidemics, provided *they have no commercial intercourse* with West India, or *infected ports.* Those towns and ports, which have good deep harbors, and enjoy extensive trade with tropical ports, are liable to annual or occasional visitations of yellow fever as an epidemic. Those too which are remote, or inaccessible to shipping, are known to be habitually *exempt from yellow fever in any form.*

Notwithstanding the general predisposition, or "epidemic constitution of the atmosphere" occasionally exists from Boston and New York, along the whole seaboard of the Atlantic to St. Augustine, and along the whole Florida coast, as far as New Orleans, and even as far as the Colorado, in Texas; yet we see yellow fever prevailing in only a few of them, and in those only which enjoy a constant commercial intercourse by water with West India or infected ports. Hence it has prevailed in New York, Philadelphia, Baltimore, Norfolk, Charleston, Mobile, and New Orleans, while scores of other points intervening are exempt and healthy. Nor does it prevail simultaneously in all of these. Why has it not prevailed equally in Albany, Harrisburg, Fredericktown, Washington City, Richmond, Columbia, or Tuscaloosa? Simply because it cannot reach them.

All these places and hundreds more are exposed to the same "epidemic constitution of air," in hot, dry, sultry summers; yet only a few are exposed to the *indispensable requisite*, "*the exciting cause*"—the *leaven* of infected air from ships, and infected ports.

Dr. Rush and others of his school, have repeatedly admitted, that the impure or miasmatic air which accumulates in the holds of ships at sea in hot, sultry summers, *is morbific*, and that in an impure or contaminated air, it may act as "*an exciting cause*" to induce *yellow-fever* in those exposed to its influence. So far as the people of such town or port are concerned, it can surely make little difference, whether this "exciting cause" be imported from a West India port, or whether it be generated in the vessel only three days before her arri-

val. And, if it has the effect of producing a malignant epidemic which they might and would otherwise escape, it could certainly be very little consolation to them to learn, that it was not the exclusive cause, but only "*the exciting cause*" of the disease; or even that it was produced by putrescent matters as the predisposing cause. City authorities would do well to exclude *such exciting causes.*

The only point remaining to establish the *importability of yellow fever* is, to show that this infected air, miasm, or by whatever name it be called, is capable of diffusing itself into the surrounding atmosphere near wharves, and thus disseminating the disease. Besides the possibility of this mode of disseminating the disease among the crowds who daily frequent the immediate vicinity of the ship wharf, there are many others who certainly contract the disease by direct intercourse with the ship, as laborers, merchants' clerks, draymen, and the like.

There are many subtile gases in nature, especially in diseases, which possess the remarkable and mysterious property of penetrating to a great distance through the atmosphere, and of insinuating themselves and combining intimately with it, in a manner beyond our comprehension. The wonderful diffusion of aromatic particles, and of the minute particles of all volatile matters of smell are familiar examples. By what force or power does the putrescent particles of decomposing animal and vegetable matters mount the winds and force themselves into every man's olfactories, whether he will or not? Other effluvia, far less sensible to our organs, diffuse themselves no less extensively through the air, and are detected only by olfactory organs far more acute than ours. The delicate and to us imperceptible odor of a deer or other living animal is thrown into the air hundreds of yards from him, so as to direct the hound in the chase. Although this to the hound is sensible and plain, it entirely escapes our senses. Why then should we expect, with our blunt sense of smell, to trace the mysterious and insensible aura which is thrown off in disease?

The only point remaining to establish the importability of epidemic yellow fever in ports, is whether the *dissemination* of the infected air of the ship in the vicinity of the wharf, among the crowds that frequent them, and reside near them, together with ten, twenty, thirty, or more cases, which were contracted by going on board such vessels, be capable of caus ing the disease to spread, among those contiguous, who do not go on board, and this when the temperature of the season, and the sultry, and if desired the miasmatic state of the air, is in the most favorable condition for disseminating the disease. Of this we think there can be no reasonable doubt. Dr. Rush, and his coadjutors in favor of the domestic origin of yellow fever, admitted that it might, and had occasionally, spread from ships in an impure air.

Dr. Mitchell,* one of the most able advocates of the local or domestic origin of yellow fever, in a report made to Congress, February 25th, 1803, admits, and even contends that vessels often become highly infected while at sea; that an impure air is generated in the holds during *hot, sultry weather*, in tropical climates; that this infection may be communicated not only to those who go on board, but that the infected air may be *diffused in the atmosphere* about the wharves and shipping, and thus excite the disease more generally. He contends, very properly, against useless and idle detention at quarantine, when no disease or infection has been on board the vessel; but he urges the necessity of detention, and thorough ventilation and cleansing, in case of infection, until the infection is destroyed. In all this he denies the *foreign origin*, or infection. But is it not immaterial to those in sea port towns, whether the infection be generated on board, or contracted in a foreign port? If it can *spread* among those where the ship arrives, it is as important to guard against it as if it were of *foreign origin*. Dr. Rush unequivocally admits that there is much danger to be apprehended from "the foul air of ships," where cases of yellow fever have occurred. He also admonishes us, "to prevent the landing of *persons* af-

*See Med. Repos., vol. 6, p. 460, &c.

fected with the ship fever, in our cities, and the *more dangerous practice of ships pouring streams of pestilential air from their holds upon the citizens, who live near the docks and wharves.*" Med. Rep., vol. 6, p. 166.

Again, in a communication from Dr. Rush and others to Gov. Mifflin, in relation to the yellow fever of 1797, in Philadelphia and Kensington, it is maintained, "that, *in addition to* the filth and putrefaction about the city, *the foul air* issuing from the holds of two ships, (designated,) *produced the yellow fever*, independently of foreign contagion." Again, the authors declare, that "the close, unventilated holds of ships, after *long voyages in hot climates*, with perishable matters on board thrown open in a *heated, sultry atmosphere*, are a fruitful source of miasm: although they infer, that "yellow fever has not been *so often* propagated by *contagion*, as has been supposed." See Med. Repos. vol 2, p. 95, 96.

Without multiplying authority we will cite one case which is full of instruction to those who preside over the port police of our cities. We mean the "yellow fever" of New York in the summer and fall of 1822. This epidemic, if it could be so called, commenced by scattering cases from the 15th to the 20th of July, and cases multiplied gradually until the 15th of August, when it was considered epidemic. The whole number of yellow fever cases, from the 15th of July until the 1st of November when it ceased was about four hundred and thirty; of whom about two hundred and fifty died. It began in Rector street, near the wharf, where four ships' cargoes had been discharged from infected vessels a few days before. From this point it spread very slowly over several squares in the vicinity, having extended only a few squares in thirty days; while the remainder of the city was unusually healthy. The squares over which it prevailed most fatally, were bounded by wide, clean, and airy streets, and the most substantial buildings in the city; no filth could be found in the vicinity; the infected air from the original infected point having been wafted thither by the winds.

These are the facts without speculation, viz: the first cases

began between the 15th and 20th of July. Between the 1st and the 9th of July, the cargoes of four infected vessels from Havana, were discharged at the wharf at the foot of Rector street, and stored in warehouses. Two of these vessels had lost some of their crews by yellow fever, on the voyage; the crews of the other two were Spaniards and acclimated sailors. During the first two weeks of July, the weather was very warm, the sun cloudless, and the air "*very calm and sultry.*" During the months of July and August, there were almost daily arrivals of other vessels from Havana, and other ports where yellow fever was known to be prevailing. During this period, the number of vessels from West India ports was unusual; because, on account of the terror of pirates, they came in companies, under the convoy of battle ships. The following are the arrivals at the quarantine ground, between the 11th of June, and the 17th of October, viz: From Havana, eleven vessels, having, or having had, on board forty-four cases of yellow fever and twenty one deaths; from Matanzas, one vessel, with three cases of yellow fever; from St. Jago, two vessels, having had three deaths from yellow fever; from Port au Prince, St, Domingo, four vessels, with six deaths from yellow fever; from Vera Cruz, between July 17th and 28th, three vessels, with nineteen cases and two deaths from yellow fever, before arrival. Besides these, there were, during that time, about forty other vessels from Southern and West India ports, whose crews, being Spaniards or acclimated seamen, had no cases during their voyage, although the air in some of the vessels proved infectious to those who were unacclimated.

If any one will take the pains to examine the accounts of this epidemic, as detailed by Dr. Townsend,* Dr. Bayley, and Dr. Walters, and after making every allowance, especially to Dr. Townsend for his views of contagion, of that charity which the advocates of the *exclusive local origin* of yellow fever are so ready to bestow, he will find ample reason to admit that the atmosphere about the wharves was *contaminated by the infectious air imported in ships from tropical climates.*

*See Med. Repos., vol. 4, p. 7 & 8; also, vol. 3, p. 46 &c., A. D. 1800.

A case presents directly in point, on this subject, as well as in relation to the agency of putrid exhalations and marsh miasm in the production of yellow fever. The town of Campeachy is situated on the Gulf of Mexico, in latitude 19° 45' N.—Vera Cruz is situated about three hundred and fifty miles distant, but in about the same latitude. Campeachy is healthy, and Vera Cruz is visited annually with yellow fever. The circumstances generally considered most favorable to the production of yellow fever, are equal in both places. Campeachy is built mostly of stone, upon a substratum of limestone rock; the soil of the surrounding country, as well as a part of the town, is a sandy loam, and often becomes very muddy; the town is surrounded by a stone wall about ten feet high; the streets are wide; the houses are large and airy; on the back part of the town, there is a high hill, or moderate mountain, which greatly interrupts ventilation, so that the inhabitants suffer greatly, from "all the inconveniences of a sultry, confined air." "In front of the middle of the city, is a large wharf or mole, extending one hundred yards into the water. Along this mole, there is constantly deposited large quantities of filth of every kind, together with "large quantities of *putrid fish.*" "When the tide, (which rises and falls two or three feet,) retires, all these matters are left exposed in the mud, and on the shore, to the direct rays of a vertical sun, until the stench is intolerable to strangers." Besides these things, there are also other "accumulations of filth in other parts of the town." Yet "the inhabitants are very healthy;" there is only one physician in the place, and he has not half employment in his profession, although "the population is about ten thousand." (See Med. Rep. vol. 4, p. 5–8.) Vera Cruz is situated upon a sandy plain, with sand hills in its rear; contains no more filth than Campeachey; the air is no more confined or sultry, the inhabitants are no less temperate, yet Campeachey is healthy, and Vera Cauz is annually visited with yellow fever of the most malignant type. (See Med. Repos., vol. 4, p. 7 and 8; also, vol. 3, p. 46, &c. A. D. 1800.)

How is this paradox explained? Campeachey has an extensive, but shallow harbor, so that large ships cannot approach near the town; only boats and small craft can enter the harbor, such as do not exceed fifteen or twenty tons. Hence, so far as commerce with remote regions, and the foul air of large ships, from long tropical voyages, are concerned, it is equivalent to an inland town; and it is also free from the crowds of *strangers*, who infest large commercial ports. But Vera Cruz carries on an extensive commerce, has a fine deep harbor, and thus does not lack for infected air from ships, and crowds of strangers upon whom it operates These, when attacked, contribute to the infection, which is like "leaven" in the contaminated atmosphere, and assists in producing the epidemics. (Ibid, p. 78.)

Although the yellow fever is endemical all the year in Cuba, it is almost exclusively confined to the commercial ports. The elevated savannas of the interior are as much a stranger to it, as our own interior towns. In the ports, it attacks principally strangers, and prevails mostly from the beginning of July to the middle of November. When there is a great influx of strangers, it becomes more malignant, and finally attacks many of the acclimated inhabitants, especially such as are exposed to the ordinary exciting causes of fevers. It is believed, among the people of Cuba, that the influx of strangers, and their numerous attacks from yellow fever, contaminates the air, or infects it, and causes it sometimes to become epidemic, when otherwise it would not have prevailed.

(TO BE CONTINUED.)

ART. II.—*Fungus Hæmatodes removed by excision, and a radical cure effected.* By JOHN TRAVIS, M. D., of Carroll County, Tennessee.

Previous to giving an account of the cure of the disease which stands at the head of this article, it may not be improper to make a quotation from the works of Samuel Cooper, M. D., a member of the Royal College of Surgeons, in London:

"We are indebted to Mr. Burns, of Glasgow, for the first distinct account of this formidable disease; and the subsequent and additional particulars of the subject, by Hey, Wardrop, and others, afford a good deal of information respecting the history of the distemper. It commences with a small colorless tumor, which if soft, when not covered by an aponeurosis, but firm when situated beneath it. When the disease occupies merely the adipose, cellular membrance, upon the surface of the muscles, the tumor is not usually painful in its beginning; nor does it impede the motion of the muscles on which it is seated. But when deeply seated in the limbs, it causes pain and weakness of the part affected. Also, when it occurs in the mamma, its growth is attended with considerable pain. For a considerable time the tumor is smooth and even, but afterwards projects irregularly at one or more points, and here the skin becomes thinner and of a livid red color. The swelling has a considerable degree of elasticity, yielding to pressure and rising again, immediately when this is taken off. The sensation of a fluctuation often seems to be so manifest that the mistaken surgeon plunges a lancet into the tumor, with the intention of discharging the fluid supposed to be present. An error of this kind is generally a serious one, as a painful bleeding fungus, which rapidly acquires a very large size, shoots out of the opening, and, by the irritation and loss of blood which it occasions, soon destroys the patient. But in the natural course of the disease, openings are at length formed in the projecting parts of the swelling, and their bloody matter is discharged. Almost immediately after the formation of

these apertures, a small fungus protrudes, which rapidly increases both in breadth and height, and frequently bleeds profusely. The discharge is thin and exceedingly fœtid. The integuments round the ulceration are red and tender. If the patient survives similar tumors frequently make their appearance in other situations.

"There is no remedy with which we are acquainted that seems to have the least power in checking this formidable disease; all escharotics, even undiluted *oil of vitriol*, are incapable of destroying the fungous growths as fast as they are regenerated. Nothing seems to offer a prospect of preserving life except the early and total removal of the disease with the knife. This, of course, is not always practicable on account of the situation of the tumor; when it can be done, no part of the surface, surrounding the tumor, should be left, as the disease would certainly recur."

From this brief history of a disease so formidable and herculean in its character, an attempt to perform a radical cure must appear arrogant or presumptuous; and when I was called to the case, which will presently be related, I told the patient and his friends that it was *possible* that a cure could be effected, but extremely improbable. I intimated that I would use every suitable effort to remove the disease and prolong life.

Harman Gardner, of Carroll county, Tennessee, ætat. 30, at the age of 10 years had a burn on the occiput, which was cured in the usual time and a perfect eschar formed. In the year 1832 an accidental injury was inflicted on the eschar, which caused a slight hemorrhage. He had no apprehensions from so trivial an injury, and continued to pursue his ordinary occupation. The wound, however, failed to heal after the application of various domestic remedies. At the expiration of 10 or 12 months, a fungous growth commenced; blood, of a fœtid character, continually oozing out of it in small quantities. It became very painful, and in the course of 7 or 8 months attained the size of a goose egg. It was very springy, resembling the common fungus or mushroom. By this time he was unable to labor, and could not wear a hat on his head.

He called on Dr. Hogg, of Huntingdon, who informed him that his disease was a *Fungus Hæmatodes*, and that the only means of relief was that of an operation, to which Mr. G. would not then submit. He then applied to a faith doctor, in Kentucky, who promised to cure him. After making a fair trial with the faith doctor and finding no relief, and his case assuming an alarming character, he sent for me to see him in March, 1834. I removed the large tumor with the scalpel, losing about 2 pints of blood. I applied a powder, every third day, composed of arsenious acid, opium, and sulphur. Ordered him to take a 6 gr. blue pill every other night, and gave him a decoction of the root of the laurus sassafras for his ordinary drink; diet light. He had an excellent nurse, a sister, whom I ordered to remove, with a keen instrument, every particle of fungi that might, from time to time, appear; which was done accordingly. On examination I found two more fungi, near the nape of his neck, about the size of a partridge egg. They had assumed a red livid appearance. I advised the patient to have them removed, but he would not consent, asking permission to wait a week or two. In two weeks I again visited my patient, and found the appearance of the sore favorable. The other two fungi had penetrated or ruptured the integuments, and were bleeding. I found other two tumors of the size of a pea, one on his left scapula, and the other on his neck. They had not yet caused a discoloration of the cuticle. I removed the four tumors with the knife, and gave the same prescription as above, adding an occasional anodyne.

In four months my patient was well, and has remained so ever since, without the slightest symptom of a return of the disease. He is now married, follows his ordinary labor, enjoys excellent health, and remains a citizen of Carroll county.

June 8, 1841.

REVIEWS.

ART. III.—*Insanity and Asylums for the Insane—Five Lectures.* By W. A. F. BROWNE, Surgeon and Superintendent of the Montrose Asylum: Edinburgh, 1837.

Two Reports of the Ohio Lunatic Asylum, 1839–40.
Eight Reports of the Massachusetts Lunatic Asylum, 1835–40.
Sixteen Reports of the Kentucky Lunatic Asylum, 1824–40.
Seven Reports of McLeon Asylum for the Insane, 1834–40.

The first of these works consists of the substance of five lectures, delivered before the Managers of the Montrose Royal Lunatic Asylum, and answers these five questions:

What is Insanity?

What are the statistics of Insanity?

What Asylums were?

What Asylums are?

What Asylums ought to be?

This is a most useful and interesting book. It is intended both for the profession and for the people at large. No physician can read it without profit; nor other man without satisfaction. It is not so elaborate as Pritchard's work upon insanity; nor so diffuse as that of Esquiral, but it is the result of Dr. Browne's own observation. It is a clear description of what he has seen and felt, and the sufferings of the wretched lunatics of former time, are so faithfully depicted that our sympathies are involuntarily enlisted in their behalf. This treatise does

credit both to the head and to the heart of the author: and we would gladly transcribe it entire to our pages, if we had room; as it is, we must be content to give the substance of its most important portions.

In no ailment, which humanity is heir to, has there been so great a change, as to its pathology and its treatment, as in insanity. In ancient time lunatics were considered as possessed of devils, and under the especial influence of evil spirits. It was supposed that these demons acknowledged no law; that they came not in the usual way of human disorder; nor would they yield to the usual remedies. This supernatural disease required a similar power to heal it. These then looked for the especial intervention of Heaven, to arrest the mental vagaries, and then miracles were wrought and the insane restored. But when the age of miracles had passed by, superstition still preserved the same pathology, while religion ceased to offer the same means of relief; and as this pathology was out of the reach of human investigation—so no science bethought itself, to apply any human aid for restoration; and the poor lunatic was left in hopeless alienation; a prey to his wild fancies or his terrible oppression. Unfortunately this theory of the disease has remained till within the last century; and, notwithstanding the immense improvements that were made in the treatment of all other derangements, almost none has been made in those of the mind.

So often were cases of insanity decisively of a moral cast, and connected with fury, madness, and crime, that it was no difficult matter for the world to suppose that these were deserted of Heaven, and given over to the evil one; and that, therefore, the sane were called upon to defend themselves against these dangerous men, and to put such restraints upon them by prisons and chains as would save themselves harmless. Then these outcasts of timid society, were left to pine away in miserable confinement, with no eye to discern the real nature of their disease; no medicine to relieve the nervous system of its incubus; no soothing to calm its distressing excitement.

If the insanity were merely intellectual, and the lunatics only thought wrong; if their passions were still, and their hands harmless, they were suffered to wander as a sort of privileged vagabonds, or live among their friends as a kind of domestic animals. But if they were furious or mischievous, their insanity was a crime, and the penalty corresponding was required of them.

For many ages convents were the principal receptacles of this class of men. In these establishments were strong rooms with solid walls, oftentimes under ground, and as if these were not enough to defend fearful society, chains and handcuffs were ready to be used. Here they underwent the privations which the monks inflicted upon themselves, whether for discipline or for cure is not known. In one convent, in the South of France, ten lashes a day were administered to every lunatic as his share of the monkish benevolence.* To these ascetics, who courted torture and self-chastening, this probably seemed good treatment, and they were almost the only guardians of the insane before the French Revolution.

It was one stage of improvement when hospitals were opened for the insane. These purported to be asylums for the weak and disordered; but they were rather asylums for men's fears, and prisons for the lunatics. They were strongly built with thick walls, narrow windows and barred doors. They were furnished with handcuffs, fetters, muffs, chains, strait waistcoats, confining chairs, and all the means to prevent the maniac from escaping or doing harm to his keepers. "At Rome, iron rings, armed with chains, and fixed in the wall, serve to confine the furious and turbulent maniacs, who are fastened by their necks and feet."† "In one room were two rings fixed to the wall, one ring was to embrace the neck, the other the ankle, and the poor maniac was doomed to stand or suspend himself by the neck."‡ "The accommodations in the asylum at Limerick, appear to be such as we should not appropriate for our dog kennels."‖ "One victim was confined

*Browne, p. 101. †Pritchard, p. 249. ‡Browne, p. 118. ‖Browne, p. 104.

in one of the oblong troughs, chained down; he had evidently not been in open air for a considerable time, for when I made them bring him out, he could not endure the light. Upon asking him how often he had been allowed to get out of the trough, he said 'perhaps once a week, and sometimes not for a fortnight.' He was not in the least violent; he was perfectly calm."* Esquirol says of the insane in France, "I have seen them naked or covered with rags, with nothing but a layer of straw to protect them from the cold dampness of the ground upon which they lay. They were kept upon food of the coarsest kind; they were deprived of fresh air to breathe, and of water to quench their thirst; and even of the most necessary things of life. I have seen them given up to the brutal supervision of jailors. I have seen them in their narrow cells, filthy and unwholesome, without air or light, chained in such dens as one might fear to confine ferocious beasts."† Similar to these were the abodes of the insane throughout Europe.

The whole arrangement and apparatus of these establishments were for security; to save the public from harm; to defend the keepers and to make them as little trouble as possible; often the manacles were used as the cheapest way of governing them, and thus the expense of attendants was reduced.‡

The keepers of these asylums were corresponding to these prison houses. They were strong and coarse men, with stout muscles and iron hearts, and without fear. Their vocation was to keep and not to cure their subjects. They had neither humanity to pity, nor gentleness to soothe their diseased excitement, nor skill to ascertain or remove its cause. "They knew no other means but fear, to maintain order among them. These officials, who were as barbarous as they were ignorant, knew no other methods to persuade, but the use of chains, whips, and dungeons,"‖ and sometimes the mad passions of these keepers, excited by the perversity of their words, reacted upon them, and made the furious ferocity of

*Parliamentary Report, 1815. †Des. Maladies, Montales, Iom., 11 p. 400. ‡Parl. Rep. 1815. ‖Riel, quoted by Esquirel.

the insane to rage still more violently, and perpetuated the very evil they ought to have relieved. To the uncontrolled passions of such men were the defenceless insane too often given up, and few cared to inquire into the manner in which they administered their trust.

In these hospitals nothing was done to heal the malady of the mind. The old notion of its supernatural origin had, at least, the effect to confirm and perpetuate it, by withholding from the guardians all thought of relief. Nevertheless some singularly ludicrous practices were discovered in a few of the British Hospitals. "In one it was the established rule that every patient should be bled every June, and that each patient should take four emetics a year." "When the physician paid his regular visits, which were few and far between, the patients were arranged in two rows, between which he passed rapidly, receiving reports of their cases at second-hand from the apothecary, and prescribing, guided by some intuitive knowledge, in this fashion—No. 1, a purge; No. 2, an emetic; No. 10, bleeding, &c."*

Of moral treatment there was none for the good of the patient, nor was there power in the hearts or understandings of the keepers and attendants to give it. Their management had the effect to aggravate, not to diminish the disease. No attempt was made to win the confidence of the lunatic, when he entered these sad abodes of alienation. Nor was there labor or amusement prepared to occupy his attention and give him self-control during his sojourn within them. Galled by the needless restraints of confinement and manacles, goaded by the harshness of tyrannical treatment, it is not surprising that the spirit raved in maddened fury, until exhausted, it sunk into hopeless imbecility. As late as 1837, we saw in the Blockley Hospital, near Philadelphia, a poor female confined in a restraining chair made of plank, one strap confined each arm, another the waist, and another passed over the thighs and held her down to her narrow prison. This girl was in a state of furious excitement; she was using the great-

*Brown, p. 122.

est struggles to extricate herself; she was kicking up her feet, endeavoring to strike any one near her; she was boisterous, and spat on any one within reach; she was the very image of a raging fury: and we were told that she had been in this excitement for three years, and the same means of straps and chairs had been as long used to calm her! We trust a similar instance cannot be found elsewhere in America.

These hospitals were once the last resting places of the living maniacs. There they were soon forgotten by their friends without, and too often neglected and abused by their masters within. Very few of the sane world ever entered those abodes of madness and wretchedness to learn their condition, and still fewer of these crazed outcasts returned from that bourne to tell the tale of their sorrows.

Pinel first called the attention of the world to the state of the Lunatic Asylums in France. He had the unprecedented courage in 1792, to unchain their miserable occupants, and to treat them as human beings. Some of them had been chained forty years; some had so long been confined in one crooked position, that their muscles were contracted and their limbs drawn up. Some could not stand; others could not walk: one for almost half a century had not breathed the fresh air, nor seen the vault of heaven. Pinel was thought himself almost a foolhardy monomaniac, to dare to let loose those madhouse prisoners, and men feared for his and for their own safety. But the result was calm and most gratifying. These maniacs were grateful, quiet and peaceable. The story of this deliverance is thrillingly told in almost every work on insanity. It opened men's eyes and the prison doors of the insane: and since that time benevolence and true science have begun to reign over the asylums in France.

About the year 1815, the British Parliament caused investigations into the condition of the madhouses of England, and some frightful revelations were made in consequence. Some of them are stated in the foregoing pages. They are found in the second lecture of Browne; they astonished the

nation. A reformation was demanded and begun. "From a blind and hard hearted policy, which sacrificed every tie of justice, and charity, and human fellowship, a sudden transition was made to a system, based upon a knowledge of the human mind and on the common sympathies of our nature, and had for its object the eradication or amelioration of the evil. From darkness they passed into light; from savage ferocity to christian benevolence."* Insanity is now known to be a physical disease, and as amenable to human remedies as any other. It is now an object to restore the lunatic to life and society, not to bury him from sight and hope. And the tender charities, and most faithful skill have taken the place of cowardice and cruelty, in the administration of asylums.

This cheering and honorable change is rather going on now than finished. There is yet much to be done. Greater improvement has been made in some of our American Hospitals than in any of the world; yet others hang far behind the light of the age; their narrow cells, their strong rooms, and their strait waistcoats, have not all been replaced with gentler means of government. But notwithstanding these relics of the former age of ignorance and malpractice, greater progress has been made in the arrangements of the houses for the insane, and in the treatment of their malady, within the last twenty years, than was made in all preceding time. Now these houses are open, airy, and cheerful — formerly, they were strong, close and gloomy. What these American asylums are, we will show from their own documents.

The Massachusetts State Lunatic Hospital was built by the State, at Worcester, and opened, January, 1833, for the accommodation of lunatics and persons furiously mad, who were dangerous to be at large; and were therefore confined in jails; and houses of correction for those, who were supported at the expense of the towns, and for others, who were with their friends.

This establishment consists of a centre building 76 feet long

*Browne, p. 129.

and 40 feet wide, and 4 stories high; two front wings each 90 feet long, 36 feet wide and three stories high; and two rear wings each 100 feet long, 34 feet wide and three stories high, extending backwards at right angles with the front. The centre building projects 22 feet in advance of the wings; the front part of this contains rooms for the superintendent and family, and the offices of the physicians and apothecary. In the back part are the dining rooms of the insane.

Half of the width of the front wings is attached to the centre building, and half falls in the rear. "This arrangement allows the long halls of the wings to open into the external air for ventilation." All the wings are divided in each story by a long hall, 12 feet wide in the front wings, and 10 feet wide in the others, running the entire length, and opening at each end outwardly, and allowing a free draught of air through the whole. On each side of each of these halls are the apartments for the insane; these are 10 feet long and 8 feet wide; in each room is a large window with an entire cast iron sash; the upper half of which is glazed, the lower half is open, and a lower wooden sash, glazed, covers, and precisely corresponds with the open part of the iron sash. Every room, for the patients, is supplied with a bedstead—a good straw bed and hair mattress, with sufficiency of blankets, sheets, pillows, &c., and those occupied by the quiet patients have chairs and tables. There are 12 of these halls, and 273 rooms for the accommodation of 238 patients, the superintendent and family, and about fifty overseers, attendants, servants, &c., necessary to conduct its various departments of business and care.

There are, beside these, a chapel, a carpenter shop, shoe shop, wood-yard, farm, and flower-gardens, for the employment of the patients; six large covered verandahs, each 34 feet square, for exercise in stormy weather; carriages and horses for riding; a library; chess, gammon, and chequer boards; musical instruments; and also gravelled walks in the woods, and in beautifully arranged gardens, for the amuse- and occupation of the insane.*

*Reports.

Dr. Samuel B. Woodward was most happily selected for the superintendence of this great establishment, and his eight years of successful management have fully justified the highest hopes of science and humanity. "Every thing," say the trustees, "has been done by the intelligence, benevolence, and firmness of the master-mind of that extraordinary man, who superintends and sways, with consummate skill, the discordant elements, over which he presides, and who has raised the reputation of the State Lunatic Hospital to the rank of a model institution; alike admirable for its humanity economy, and success."* This institution was opened for the worst class of lunatics, criminals, dangerous men, and paupers; the denizens of jails, work-houses, poor-houses, and cages, or vagabond wanderers. Some had been imprisoned for various periods, from one to forty-five years. In course of the first year, 107 were received, "who had been adjudged by the courts to be so furiously mad, as to be too dangerous to the peace and safety of the community to be at large." One hundred considered mankind as their enemies, and were, therefore, ready to do violence to any keeper or attendant. Forty had stripped themselves and would not be clothed, even in the severest weather of winter; and many had committed homicide.

One hundred and fifty-three were admitted during the year 1833; of these 105 had been insane more than one year; 20, on an average, three years; 71 from five to forty years; and 14 had no record or friends to tell how long they had been deprived of their reason. A more hopeless class of patients were never gathered together into one asylum. The cost to the State and the towns, for maintaining and guarding these, had been about $40,000 a year.

*Eighth report.

The following table exhibits the statistics of the receptions for eight years.

	Old cases.	Recent cases.	Whole number.	Average population of Asylum.	Expense of the Asylum.
1833	105	48	153	107	12,196
1834	55	64	119	117	16,941
1835	58	55	113	120	16,576
1836	65	60	125	127	23,272
1837	95	73	168	163	26,027
1838	95	82	177	211	28,739
1839	95	84	179	223	29,474
1840	87	75	162	229	27,844
	655	541	1196		180,969

Causes of Insanity.

Intemperance	185	Abuse of snuff and tobacco	7
Ill health	185	Hereditary or with insane kindred	361
Masturbation	103	Periodical	239
Domestic affliction	129	Homicidal	18
Religious	84	Actual homicides	13
Loss of property and fear of poverty	71	Suicidal	134
Disappointed affection	53	Actual suicides	5
Disappointed ambition	27	Arising from moral causes	344
Epilepsy	35	Arising from physical causes	319
Puerperal	30		
Injuries of the head	16		

Such were the means with which they were to work, and such were the materials on which they were to operate. What was the result of their labours is now to be shown.

It is worth while to observe, that for the State there were two objects, economy and security; the first table shows how the former was accomplished in reducing the cost of maintenance of the pauper lunatics from an average of $70,000 per year to an average of less than $23,000, beside the interest on the cost of the whole establishment; and the superintendent's salery, which is about $2,000 a year. Public security is of

course obtained; for none, except such as are either recovered or so far amended as to be pefectly harmless and peaceable, are ever permitted to go beyond the control of the hospital.

But the gain to the individuals who have suffered the pains and deprivations of insanity, and have now recovered the possession of their moral and mental powers, and are restored to the happiness of home and the responsibilities of society, exceeds all pecuniary calculations.

Table, showing the admissions, recoveries, per centage, and deaths.

	Admitted.	Discharged.	Recovered.	Recovered pr. ct. of all discharged.	Recovered per cent. of admissions	Improved.	Eloped.	Died.
1833—Old, - -	105	20	11	55	$10\frac{1}{2}$	2	1	4
" Recent,	48	19	14	$73\frac{1}{2}$	$29\frac{1}{6}$	5		
1834—Old, - -	55	49	10	$20\frac{1}{2}$	$18\frac{1}{5}$	16		5
" Recent,	64	66	54	$82\frac{1}{4}$	$84\frac{3}{8}$	6	1	3
1835—Old, - -	58	60	9	[illegible]	$15\frac{1}{2}$	20	1	4
" Recent,	55	52	53	80	$78\frac{2}{11}$	4		4
1836—Old, - -	65	49	9	$18\frac{2}{5}$	$13\frac{11}{13}$	9	1	5
" Recent,	60	57	43	$84\frac{1}{5}$	80	6		3
1837—Old, - -	95	63	17	$25\frac{1}{4}$	18	20		7
" Recent,	73	58	52	$89\frac{1}{2}$	$71\frac{1}{4}$	4		2
1838—Old, - -	95	70	12	$15\frac{1}{2}$	$12\frac{11}{19}$	18		12
" Recent,	82	74	64	$86\frac{1}{2}$	78	6		4
1839—Old, - -	95	97	16	$16\frac{1}{2}$	$16\frac{4}{5}$	27		17
" Recent,	84	71	64	$90\frac{1}{7}$	77	2		5
1840—Old, - -	75	85	18	21	24	26		11
" Recent,	87	70	64	$91\frac{1}{2}$	$73\frac{1}{2}$	2		4
8 years.	1196	960	505			173	4	90

In these eight years, 655 old cases were admitted, and 102 were cured, which is 15.57 per cent. upon all admissions; and 541 recent cases were admitted, of which 403 were cured, making 74.50 per cent. Beside these, there were 28 convalesing at the end of the year, which should be added to the number of cures, and this would make 79.74 per cent. recovered of all recent cases that entered the hospital.

Moreover 173 were discharged, improved; being quiet and inoffensive, though incurable, they were restored to their families. This is not all; those who are not discharged, nor even so much improved as to be safe to be entirely at large, are now made comfortable and have many enjoyments. They were before madly furious, in a state of painful excitement or overwhelming oppression; now they are quiet, and have the ordinary physical, and many of the social comforts of life. Their misery is alleviated, and they are objects of tenderness now, rather than of fear and ridicule as they formerly were. It is wonderful how this has been wrought by gentleness and firmness in the superintendent and his assistants. Some maniacs had been for years confined in solitary and cold dungeons, in a constant state of passionate agitation, too desperate to allow any fire in their cells; refusing to wear any clothing, devouring their food like wild beasts, and so mad that their keepers deemed it an act of heroism to enter their rooms; now they sit at a common table with others, calm and self possessed, with their knives and forks, taking their food in order and sobriety; clad in decent apparel, going to bed in composure; uniting in amusements, or joining in labour with cheerfulness and pleasure.* It is not unusual to see two men ploughing in the field, quiet, and attentive to their work, and performing it well, both insane, both having committed homicide, and had therefore been confined many years in prison, as dangerous to be at large.†

"One female had been exceedingly filthy in her habits, had not worn clothes for two years; had been confined in a filthy cell, for the same time, destitute of every comfort and tearing every thing to pieces that was given her. Now she is dressed cleanly, works some, takes her food and at table, in company with sixteen others, sings very pleasantly, when requested, and is very civil and agreeable a large part of the time."‡

We have not room to multiply instances; we quote these as examples to show how much the incurable cases of insanity may be ameliorated. These reports, without intending to

*Report. †Report. ‡3d report.

give all or even any considerable portion, yet detail to us cases of every class, in which the moral and medical means of the asylum had effected this improvement. There may indeed be no hope of the restoration to soundness of mind or affection, but the bitterness is taken from their cup of anguish, and they are harmless toward others, and often useful in their way.

The rules and regulations are printed in the volume of reports published by the State for distribution. These are very minute and judicious. They are established by the board of trustees, and rigidly enforced, upon all the officers attendants and patients. The superintendent is also the physician of the institution. The whole is under his government. He is required to live in the house: to have no other business, except consultations in the town of Worcester, and these principally in cases of insanity. The assistant physicians, chaplain, steward, matron, four overseers, twenty attendants, and eighteen other assistants, also reside in the establishment; are devoted to the service of the hospital, to the exclusion of every other avocation.

The overseers and attendants are required to be men and women of cultivated minds, and of the strictest morality. They must be calm self-possessed and gentle in their manners, and amiable in their tempers. They must be bold and firm, yet mild and gentle in their deportment toward the patients. They must use neither tobacco nor distilled spirits, either at or away from the asylum, as long as they are connected with it. Neither profanity nor angry or taunting language is ever allowed. The least violation of these rules is cause of dismissal from the institution. By this most rigid caution in the selection of attendants, they obtain such as have power to amuse, and dignity to command the the confidence of the patients, and thereby control their mental and moral wanderings.*

*The liberal reward given, for all service in the hospital, enables the trustees to command the best and most faithful attendance. The superintendent has a salary of $2,000, and the support of his family. The assistant physician has $600 and support. The steward and all subordinate officers and assistants are paid such wages as to command the best of their respective classes.

Labor, as a means of cure and amelioration, has been of signal advantage in this institution. Agriculture and gardening are the principal occupations; but they have also carpenters, cabinet-makers, shoe-makers, and tailors, all profitably and satisfactorily employed; for, "patients, who have been brought up to labor, as soon as their first excitement is over, request employment; it is granted, and considered by them as a great favor." "No convalescent recovers so rapidly or favorably as the laborers."

Amusements also are found to be very useful. The patients have their dancing and their social parties. They ride in the carriages; they walk in the gardens, or in the woods, or go into the village, and visit all objects of interest. They read, write, and play at chess and other games, and on musical instruments. They bowl and pitch quoits. The females sew, knit, embroider, aid in the household duties, and, in the summer, cultivate the flower garden. They join in the social and dancing gatherings. Some occupation or other is perpetually offered them, so varied, that they do not become weary of any one, and so successive, that they have no leisure to let their minds run after their delusions.

They have religious exercises in the chapel, morning and evening and on the Sabbath. From 120 to 150 attend them, and no congregation is more orderly or attentive. They have a power of self-control then, which they do not on other occasions; some, who are almost furious elsewhere, are quiet there. Since the chapel was built in 1837, about seven-eighths of the patients have attended service at the same time, and no instance of disturbance has ever occurred.

In this hospital, no harshness or violence is ever used: not a strait waistcoat has ever been there; muffs are not allowed, and rarely confining chairs. Mittens and wristbands are the only methods of restraint, and even these but seldom, and only when the safety of the patient requires it, never for the protection or the comfort of the attendant.*

*"At this moment, November, 1838, out of 230 patients, but one individual, either man or woman, in our wards has upon his or her person, any restraint whatever." 6th Rep. p. 59.

The greatest attention is paid to the physical health of the patients; and for this purpose medicine is frequently given, and often the insanity is entirely removed by this means. In the excited condition of the brain, during the early stages of the disease, medicines operate like a charm, and remove the irritation, upon which the excitement depends. They compose the agitated state of the nervous system and bring about quiet and repose, and the way is open for mental sanity.*

Dr. Woodward and the trustees have published copious annual reports upon the whole regime and progress of the institution. These reports cover a period of eight years, and about 1200 patients of every variety. Dr. W. has done good service to the profession, by his discoveries in the pathology and treatment of this malady, by his detailed descriptions of the means by which he attains his remarkable success, and by his tables of the statistics of the disease. He has analysed his cases with minute discrimination, classified them according to the cause and manifestation of the derangement, to the age, occupation and temperament of the patients, and shown the influence of all these upon the final result. The sum of all these observations is given in 20 tables, which present an invaluable mass of information and philosophical inference relative to the origin, progress and issue of this disease, such as is found in no other treatise upon the disorders of the mind.† We have no room for farther extracts, but refer our readers to the Reports, which are deposited, by the kindness of Dr. W., in the Library of the Louisville Medical Institute, and in the State Library at Frankfort.

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*8th Rep.

†Of course the proportion of various causes must differ in different communities. Dr. W. found that, in about 1000 cases, 20 per cent. were caused by intemperance; 20 per cent. by ill health; 14 per cent. by domestic troubles; 9 per cent by religious anxiety—60 per cent. were physical causes, 40 per cent moral causes.

Of the curability, in relation to cause, he proves that cases of insanity caused by ill health, 63 per cent.; by religion, 60 per cent.; domestic trouble, 59 per cent.; intemperance, 50 percent.; and masturbation, 27 per cent. were curable.

The McLean Asylum for the insane is situated in Charlestown, Massachusetts, about one mile from Boston, and is a branch of the Massachusets general Hospital, in that city. It was established in the year 1818, partly by State bounty, but principally by the means of private subscriptions, and is under the joint control of trustees, chosen by the State and by the subscribers to its funds. It has a small farm and abundant buildings located on a beautiful promontory, partially surrounded by small arms of the sea. With Boston in its front, Cambridge on its right, Charlestown on its left, and the country in its rear, it is in the midst of the busy scenes of active life, and rural enjoyment; near enough to them to have access to all their objects of interest; yet so far separated as never to be interfered with, or be disturbed by them.

The buildings of this establishment have been enlarged and increased from time to time, as the patients multiplied, till now there are ample accommodations for 130 insane, and the superintendant and steward with their families, and all the subordinate officers and attendants; and the whole cost of land, buildings, furniture, horses, carriages, &c., from beginning to end, has been about $250,000. From its great wealth, its magnificent and convenient architectural arrangements, and the abundant means of amusement and occupation, this may be considered as the best adapted to its noble purpose of all the asylums in our country.

It is under the superintendence of Dr. Luther V. Bell, a man who brings to his work a rare combination of skill and benevolence, of practical wisdom and faithfulness. He is aided by an assistant physician, steward, two supervisors, and a large corps of "attendants and nurses of cultivated minds and elevated moral feelings, who engage in their labors with a spirit of patience and self-denial, whose service is not servile, but who are companions of the unfortunate,"* and are able to secure their love, respect, and confidence. The number of these attendants varies with that of the patients. "We have not asked with how small a number we can get along, but

*Dr. Lee's report, 1835.

how many can be advantageously employed?"* "Generally there is one attendant to every four or five patients, independent of particular cases, where from suicidal propensity or other adequate cause, the whole services of one attendant are devoted to a single person."†

The construction of the asylum is so ample and convenient as to admit a more entire and favorable division of patients, into classes according to the nature and developement of their derangement, than is allowable in any other hospital. They can so distribute their inmates as to make more than a dozen different families of each sex; as wholly separated and removed from each other as can be desired. These families or classes have each their proper sitting rooms, sleeping and dining apartments, bathing rooms, &c., and meet each other only as far as is approved, at prayers, in certain kinds of employments and amusements. And by the proper use of these means, they are enabled to dispense almost entirely with restraining measures, or even rigid confinement; so that the strong rooms are not called into use more than three or four times a year. And they rarely have a patient, who does not sit at table with the others and eat with knife and fork.‡

The treatment of the patients is generally the same as that practised at Worcester; upon the modern principles of generous confidence and tenderness, watchfulness and occupation. This institution was the first that had the enlightened courage to try the experiment of mechanical labor, to prove the safety, expediency, and immense utility of putting sharp tools into the hands of the insane, and not the least accident has occurred although many hundreds have had the use of chissels, hatchets, &c.‖

This hospital has abundant "and various facilities for keep-

*Dr. Lee's Report. †Dr. Bell's Report, 1839. ‡Ibid.

‖And herein our safety lies: the patients, feeling themselves under no restriction, consider that they are placed upon their honor, and their self-respect being called into action, they would not forfeit the confidence and good opinions of the officers, for any consideration. Give a man constant employment; treat him with uniform kindness and respect, and however insane he may be, very little need be feared from him, either of mischief or violence.—Tyler's Report, 1836.

ing every moment occupied—a farm, a highly cultivated garden, a nursery of fruit and ornamental trees, the sawing, splitting and piling wood, a bowling alley, a billiard table for each sex, chess, cards, draughts, newspapers, drawing and surveying materials, a library, six horses, carriages, musical instruments, and other means of labor and amusement, which particular tastes may dictate."*

Mental and bodily occupation are the main reliance for the tranquillizing the excited mind and agitated feelings. Religious worship, the daily prayers, reading the holy scriptures, and singing are found very efficacious for the same purpose. The patients are allowed to attend divine service on the Sabbath, in the churches of their own choice in the vicinity; for almost every denomination has worship within a short walk of the institution. Thirty usually go out to these churches and no disturbance has yet happened.

Beside the great variety of work and amusement, in the hospital grounds, the patients are encouraged to walk abroad, to the gardens, manufactories, monument, the shipping, colleges, and other objects of interest, that abound within a few miles, and no elopement has happened from this liberty.

The whole administration is paternal, affectionate, and confiding; never violent, forcible, or suspicious; no strait waistcoats, hand-cuffs, chains, nor restraining chairs, are there. Mittens are sometimes used to prevent the violent from tearing their clothes, but not one in a hundred is ever thus confined, and never except with the specific authority of an officer. The leathern muff is also sometimes used to allay the vehemence of suicidal propensity, this is also very rare; confidence is, at first, offered the lunatic, "and he is made to understand, that the extent of his privileges will necessarily be dependant on his ability to comply with the rules and to control himself."†

The physicians and every officer and attendant are required to live at the asylum, and devote their whole time and energy to their work; and the least violation of the rules, the

*Bell's Report, 1839. †Bell's Report.

least neglect of discipline over their own tempers or habits, the least failure of gentleness or firmness toward the patients is good cause of dismission. But they are so well selected and so liberally paid, that this rarely happens.

The great munificence of the endowments of this institution, the experience, talents, and devotion of its governors, have enabled it to procure every thing that humanity can desire, skill can suggest or wealth can purchase, for the cure or comfort of the insane, and made it a most desirable abode for those lunatics whose means permit their transportation and residence there, wherever they may belong. And compared with the very great advantage for the recovery of the curable, and for the comfort of the incurable, the expense of $3 50 per week, for residents of the State, and $4 50 per week for residents of other States, is not great.

This being neither a public nor a charity hospital, none are admitted except such as can pay the above prices; but any one can be taken away, whenever the economy or impatience of friends demands it. Accordingly a great many are taken from the institution when they begin to improve, and before the recovery is established. This will explain the large number discharged as improved, but not cured.

In the reports of this asylum no division is made of old and recent cases, but the general results of all. The following table shows the admissions, discharges and condition of the patients when discharged, since the beginning of the asylum.

YEARS.	Admitted.	Discharged.	Unfit.	Eloped.	Died.	Not improved.	Improved.	Recovered.	Remaining.
1818 to 1836,	1311	1239	13	21	117	218	358	512	71
1837 to 1840,	545	490	8	0	43	52	98	290	125
	1856	1729	21	21	160	270	456	802	[illegible]

Which shows that, for the first 18 years, 41.32 per cent. of all discharged were cured, and 38.8 per cent. of all admitted. During the last four years 59 per cent. of all discharged, and 53 per cent., of all admitted were recovered. In the year 1838, 100 per cent., of all discharged, were recovered, leaving out of the calculation those which were taken away too early, and those who died. In all the 22 years 1 in 88 eloped; and 1 in 11½ died.

The Ohio Lunatic Asylum was built, at Columbus, by the State, for the same general purposes as that at Worcester, Mass., and was opened, for the reception of patients, 30th November, 1838. In its plan and its furnishing, in its internal and external arrangements, it is similar to the Massachusetts Hospital. It is situated about one mile from the city of Columbus, on a farm of 30 acres, and contains 153 rooms for the classification and accommodation of 140 patients, and with every means for their comfort and occupation.

During the year 1839 and 1840, of which we have reports, there were received into this asylum, 258 cases, embracing 170 that were of more than one year's duration, and 88 of shorter continuance. These were gathered mostly from places of confinement, jails, houses of correction, and poor houses. Some had committed homicide; others had committed lesser crimes; many were dangerous to the public peace.

This institution was most happily put under the charge of Dr. William M. Awl, whose successful administration has justified his early promise of good to the insane and to the State. He is aided by another physician and a large body of assistants, of suitable character, to command and to compose the people of their charge—all dwelling in the asylum.

As in the hospitals before described, the government of this is kind and watchful, never severe or violent. Harsh instruments of restraint are not allowed, nor any needless confinement. Labor, amusement, and religious exercises are the [illegible] moral means; and suitable medication, the physical means used for the cure of the mental disorders. The officers treat all the patients with tender respect, and the attendants

secure their good will by affectionate hospitality and attention to their wants. They offer them every allowable privilege, and encourage them to participate in the enjoyment of every pleasure, which their capacity and condition admit. They ride in the carriage; they attend the dancing, social, and musical parties. They have sports on the green; they walk abroad to the town and to the woods, under restrictions. They read, write, draw, and attend the religious services daily and weekly.*

The result of this excellent management shows the recovery of 85 per cent. of all recent cases discharged; 41.17 per cent. of old cases, and 66.66 per cent. of all cases discharged, in the two years.

Beside the entire restoration of reason and happiness to 80 of these afflicted ones, a vast good has been done to the incurables. Those, who before were a pain to themselves and a torment to their friends and dangerous to the public, are now made mostly quiet, comfortable, and even happy and useful. The sting of their mental death is taken away.†

This asylum accommodates 140 boarders, yet is not half large enough for the State of Ohio, and none are admitted from other States. An institution as useful as this ought to be sufficient to accommodate all the insane of its own State.

The Connecticut Retreat, for the insane, at Hartford, has been in operation seventeen years, and had charge of 1068 patients, of whom 601 have been cured, which is 56.3 per cent. of all old and recent, epileptic, idiotic, curable and incurable. The last report makes no division of chronic and recent cases; but, from the previous reports, we learn the facts in the following table:

	Old Cases.			Recent Cases.					
	Admitted.	Cured.	Per cedt. of cures.	Admitted.	Cured.	Per cent. of cures.	Per cent of cures of all cases.	Deaths.	Eloped.
1824—1839.	464	112	24.1	537	451	84	56.2	60	0

*Reports. †Ibid.

This has been the most successful institution for the insane in the world. The great proportion of recoveries and small number of deaths are proofs of its good management. The means and methods of cure are similar to those in the best hospitals. The farm, gardens, and joiners' shops, afford abundant and useful labour. The carriage, walking, library, games, pictures, are sources of profitable amusement. Beside these, the women sew, knit, dance, and sing. Religious worship, morning and evening, and on the Sabbath, are now looked forward to by the patients with pleasurable anticipation.*

Dr. Amariah Brigham has been superintendant for one year, and has so far answered the high expectations of the friends of the Retreat. He has, for co-operators, an assistant physician, chaplain, thirteen attendants to take charge of seventy-nine patients, and four others, who have each the care of one patient, and ten other assistants for the household duties.† All reside at the house and are well paid. These are required to treat the patients with kindness and respect. Strait waistcoats, restraining chairs, and all these relics of barbarism find no place there.

This hospital can accommodate 100 patients, and had, in March, 1841, 79. These, if they belong to the State, pay $3 50 per week; if out of the State. $4 per week, and are well compensated for their money, by skilful attention and almost certain restoration to health.

The Vermont Asylum was established at Brattleborough, in 1816, partly by private bounty and partly by State grants, on condition that the poor of the State be received at $2 per week; others pay $3 per week. One hundred patients can be accommodated, and eighty-one were there, at the date of the last report, October, 1840. During last year 73 were admitted; 142 enjoyed the benefit of the institution; of these 54 were discharged, 1 eloped and 6 died. Of the old cases discharged 28 1-5 per cent. were cured. Of the recent cases 88 1-5 per cent., and of all 54 per cent. had recovered.‡

*Dr. Brigham's Report. †Ibid. ‡Dr. Rockwell's Report.

Dr. Wm. H. Rockwell has the whole charge, and manages it according to the plan, and with the success, of Dr. Woodward, at Worcester. A farm, shops, riding, reading and religiuos service are used among the moral means of cure.

The Bloomingdale Asylum, near New York city, is one of the finest institutions in the United States. It has beautiful grounds, means for riding, chapel for religious exercises, and a library, and accommodates about 140 patients. It has been 20 years in operation, and received 2486 patients, and cured 77 per cent. of the recent cases, and 11 per cent. of the old cases, and 45⅞ per cent. of all. Two hundred and twenty-two have died, which is 8⅝ per cent. of the whole. At the date of the last report, 131 were in the asylum under the superintendence of Dr. Wm. Wilson, aided by 20 assistants and other subordinates.*

The particular method of treatment is not described in the report before us; but, whatever it may be, such success as the tables show, argues a proper administration.

The Friends Asylum, at Frankford, near Philadelphia, was opened in 1817, and is now under the management of Dr. Pliny Earle, the resident physician. Six hundred and twelve patients have been admitted; and 259 were cured, 143 improved and 84 died This gives 42.3 per cent. recovered, and 13.7 per cent. died, of all that were in the asylum in 24 years.

This is an admirable establishment, under the control of the Society of Friends. It is large, elegant, well arranged, and capable of accommodating 65 patients. There is a farm, a grove, a little deer park, carpenters' shop, basket-makers' shop, library, cabinet, museum of natural history, a circular railroad, and a carriage and horses for the use of the inmates. Labour and amusement, religious worship, and lectures on science are very efficacious there. "Gentle manners, kindness, and the greatest mildness form the ground work of the system, by which the feelings of the patients are generally controlled and interested."† "There are no means resorted to, no system of

*Report for 1840. †Journal Med. Science.

treatment pursued of which every physician would not avail himself in his private practice."*

The Pennsylvania Hospital for the insane is situated about two miles westward of Philadelphia. It is a splendid establishment, and no expense has been spared in its erection. When finished it will accommodate 200 patients. There is attached to it, a farm of 42 acres, and all is under the care of Dr. Thomas S. Kirkbride, whose character promises much for the success of the institution. The insane, formerly in the Pennsylvania Hospital in Philadelphia, are removed to this new building.†

The Maryland Hospital, near Baltimore, can accommodate 150 patients. In six years it has received 393 patients, and cured 135, which is 33 per cent.; 34 have died which is 8 per cent. The means of cure are labor, agricultural and mechancal, gardening, and carpentering, amusements of walking, riding, fishing, reading, and games, and, not least important, religious worship. This is under the care of Dr. Wm. Fisher.

In Virginia there are two asylums, one at Williamsburgh, the oldest institution for paupers in the Union. It contains 60 patients: We have no report from it.

The *Western Lunatic Asylum* is at Staunton, Virginia, a State establishment, under the charge of Dr. Francis T. Stribbling. It has a farm, library, horses, carriages—a piano and other instruments of music. They have labour on the land, and cutting wood, parties, balls, games, sewing, knitting, and religious exercises. From 1828 to Nov. 1839, there were 157 patients admitted and 47 cured; of the recent cases 83 per cent. recovered.

The *Maine Asylum*, at Augusta, has been in operation only two months at the date of the last report. It had then received thirty patients, and had room for ninety more, and

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*Report, 1841.

†Earle. Visit to thirteen asylums, for the insane, in Europe; and notice of other institutions in Europe and America. This is the most comprehensive map of statistics on this subject that we have found. It contains a notice of forty British and continental hospitals, and twenty-two in the United States.

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the usual means of occupation and amusement that are found in the best hospitals.

There is an asylum in Columbia, South Carolina, built by the State at the cost of $100,000, and one in Milledgeville, Georgia. A new building has been erected in the yard of the Charity Hospital, in New Orleans. But so narrow are the external accommodations that little can be promised for the lunatic, except shelter and protection. A large hospital is established by the State of Tennessee, in Nashville, for poor lunatics. There are city asylums in Boston, New York, Philadelphia, Baltimore, and Washington for the insane poor.

The *Kentucky Lunatic Asylum* is beautifully situated on the confines of the city of Lexington, in the midst of a small farm, on a gentle declivity. The hospital consists of a centre building 66 feet long, two front wings, each 62½ feet long, and two lateral wings extending backwards from the outer end of the front wings, and 22 feet wide; making the entire front of the building 235 feet in length. These afford room for 130 patients. There are 18 acres of land for exercise, but no shops nor other means of occupation or amusement. There is one other building for the incurables; and also one 20 feet square and two stories high, containing 16 rooms, for the violent and unmanageable. A part of the whole is surrounded with a high fence to prevent escape. Originally there were provided hand-cuffs, strait-waistcoats, and other strong apparatus for confining and restraining the patients according to the notions of the time, for the treatment of this class. This institution was primarily intended for lunatics who were mad and dangerous to be at large, and for insane paupers; but, afterwards, others were admitted from this and other States, by payment of $2 50 per week.

A little land is cultivated, vegetables for the family are raised, in the garden, by the labor of the patients. The nursing the sick, the care of the rooms, the cooking, the household work in general, and the making the clothing for the pauper insane, are principally done by the inmates. Yet the report for 1840, out of 201 patients, gives only 12 as at work; and of all those, who had entered within the last ten years,

only 4 are recorded as at work. If there be no mistake in this record, and those of 1839 and 1838 are very similar, we must conclude that labor is not required of the recent cases; nor is it used as a constant remedial means.

This asylum is under the supervision of five commissioners, who make annual reports, to the Legislature, of the condition and the yearly history of their charge. We have these reports, for the last seventeen years, now before us; and have studied them, with great care in the vain hope of ascertaining precisely how far, and in what manner the whole object of the institution had been accomplished. The substance of these is comprised in a table of the patients. This, in several columns, gives us the date of entrance, the age, sex, county or State, and present condition of the lunatic, and whether married or single. There is one singular column, which purports to give the diseases, but which is a strange mixture of causes and effects. Here we find under the same head, as insane disease, idiocy, catamenia, mania, blow on the head, melancholia, puerperal, hard study, epilepsy, lunacy, dolore, grief, á potu, hysterics. This column leaves a double question still open: we wish to know how the insanity originated, and what is its present form. Every one, conversant with this subject, knows that the puerperal state, epilepsy, intemperance, hard study, the moral affections and physical injuries are causes, and may produce any of the forms of insanity; and that mania, and melancholy, and idiocy, are effects, and may be brought on by either of the foregoing. Idiocy may be congenital, and in this sense it is used by most writers. In these reports it includes both those who were born idiots, and those who are in the last stage of dementia,* the fourth degree of inappetency of Pritchard: for we find, on comparison of reports of various years, that the disease of some is at first called mania or epilepsy, or á potu, and afterwards idiocy.

These reports give us no account of the length of the dis-

*This mistake is not peculiar to Kentucky, for Esquirol says, of some French writers, "They have confounded idiots with demented persons, and the reverse, and often with monomaniacs." Tom. 11, p. 283.

ease, previous to entrance into the asylum; nor of the resources for occupation of the patients, nor of the principles or details of medical practice; nor of the condition of those who were discharged previous to 1839. So far then as to giving the world any knowledge of the causes and nature of insanity, in Kentucky, or of its duration and curability, or of the internal economy and management of our State asylum, or its means for curing its lunatic residents, these annual reports disappoint our hopes. Probably they were prepared, not by any medical officer, but by the steward or commissioners or other persons, who are not supposed to be acquainted with the minutiæ of this disease.

Governor Adair, in his message to the General Assembly in 1821, urged as one reason for the establishment of this asylum, that it "would prove highly beneficial to the medical school, which would, in time repay the obligation by useful discoveries in the treatment of mental maladies."* This was the early hope; but so far from making any such discoveries, the administration of this hospital has not even adopted and practiced upon the discoveries, which have been made and published by others. Nor have any contributions been made to science from that source, excepting two valuable articles upon the legal and statistical history of the institution, from the pen of Dr. Theobald, in the Transylvania Journal, in 1829 and 1830.

Nor ought this to have been expected. The treatment of insanity is a specific study. It requires one's whole and undivided attention. Yet no physician has ever been so employed by the State, for this asylum, as to be able to give it his whole time and thoughts. The most that is done, is to hire one to visit the establishment daily, and this for a very small remuneration.† Living at a distance from the institution, with the necessary cares of miscellaneous practice, and the necessity of obtaining support by this, the most that

*Journal of Senate of Kentucky, 1821, p. 19.

†Cost of medicine and medical attendance for 1838, $341 88; for 1839, $373 38; for 1840, $264 04, being $970 30 for three years medical attendance and supply of medicine for 327 insane patients, and a constant average of 125. Reports.

could be expected of him, is that he should attend to the incidental diseases of the insane, but not to give that constant, anxious, and unremitting attention, which is needed for the cure of mental derangement.

The services of the medical faculty of Transylvania University were gratuitous and occasional, and therefore irresponsible for the permanent care of the insane. As this practice is entirely out of their usual routine of professional business and study, this generous offer of consultation aid, must have been of much less value than in ordinary diseases; for the incidental and temporary counsel, of all the most gifted of the profession, will avail little, in the cure of insanity, compared with the unremitting watchfulness of a single physician, exclusively devoted to it.

From May, 1824, to January, 1841, the asylum received 841 patients. Of these 337 died, (including 43 who died of the cholera, in 1833,) 78 eloped, 284 were discharged and taken away by friends, and 142 remained. We have no means of ascertaining what was the condition of those, who were discharged or taken away previous to 1839, whether they were cured, improved, or stationary. Nor what proportion of these were discharged, by request of friends, before the hospital had exerted all its influence for their restoration, or by desire of the commissioners, after they had ceased to hope. The following table we copy from the reports of 1839 and '40. It gives a concise statistical history of the institution.

I.

Showing the admissions, discharges, and deaths, in each year from the opening of the Asylum, in 1824, *to* 1*st January,* 1841, *and the relative proportion the two latter bear to the first.*

Year.	Admitted.	Discharged	Died.	Remained.	Total in House.	Average number.	Per cent. discharged.	Proportion discharged one in	Per cent. died.	Proportion died, one in
1824, - -	54	13	2	39	54	28.00	24.07	4.15	3.07	27.00
1825, - -	39	15	7	56	78	46.83	19.23	5.20	8.97	11.14
1826, - -	33	17	4	68	89	58.83	19.10	5.23	4.49	22.25
1827, - -	38	22	13	71	106	71.50	20.75	4.81	12.26	8.15
1828, - -	35	12	9	85	106	77.41	11.32	8.83	8.49	11.77
1829. - -	41	12	22	92	126	91.08	9.52	10.50	17.46	5.72
1830, - -	31	19	16	88	123	91.08	15.44	6.47	13.00	7.68
1831, - -	43	18	11	102	131	93.50	13.74	7.27	8.39	11.90
1832, - -	42	26	15	103	146	103.33	17,80	5.61	10.27	9.73
1833, - -	40	14	60	69	143	83.00	9.79	10.21	41.96	*2.38
1834, - -	52	27	10	84	121	76.41	22.31	4.48	8.26	12.10
1835, - -	54	24	21	93	138	91.41	17.38	5.75	15.21	6.57
1836, - -	57	24	26	100	150	101.08	16.00	6.25	17.33	5.76
1837, - -	68	33	22	113	168	106.91	19.64	5.09	13.09	7.63
1838, - -	63	25	29	122	176	117.09	14.20	7.04	16.47	6.07
1839, - -	86	37	35	136	208	132.49	17.97	5.62	16.83	5.94
1840, - -	65	24	35	142	201	136.93	11.94	8.37	17.42	5.74
17 years,	841	362	337			88,64	43.10	2.32	40.65	2.46

The third column, the discharged, includes all who were cured, improved, and stationary; and were discharged by the commissioners or were taken away by friends, or eloped. But these are more satisfactorily distinguished in the reports of 1839 and '40, which we give, condensed.

II.

Statement of the manner of discharge and condition of those who left the Asylum in 1839–40.

	Patieuts in the Asylum.			Taken away.	Died.	Eloped.				Discharged.			
	Previously.	Admited.	Total.			Cured.	Improved.	Stationary.	Total.	Cured.	Improved.	Total cured.	Total improved.
Old cases, - - - - -	82	79	161	8	44	7	4	3	14	6	4	13	8
Recent cases, - - -	11	50	61	4	8	2	2		4	12	6	14	8
Idiots and epileptics,	29	22	51		18			3	3				
Total,	122	151	273	12	70	9	6	6	21	18	10	27	16

*This year 43 died of the Asiatic cholera.

The following table shows the comparative success of one Belgian, three French, thirteen British, and ten American Lunatic Asylums.

III.

Comparative view of twenty-seven Hospitals.

	Time.	In Hospital.	Cured.	Per cent. of cures.	Per cent. of deaths
European.					
Utrecht,* - - - - -	1832 to 1837	255	105	40.07	21.56
Charenton* - - - -	1826 to 1834	1205‖‖	516	42.82	26.64‡‡
Saltpetriere,* - - -	1801 to 1813	3007	1625	54.04	27.02
Esquirol's,* - - - -		335	173	51.64	
British.					
Bethlehem,† - - -	1819 to 1833	2445	1124	45.56	
St. Lukes,* - - -	1751 to 1801	6458	2811	43.52	
Wakefield,* - - - -	1819 to 1836	2242	991	44.20	31.64
Lancaster,* - - - -	1817 to 1832	1750	697	39.82	24.29‡‡
Stafford,* - - - - -		1000	429	42.90	
Retreat near York,*	1796 to 1835	508	236	46.43	
York,* - - - - - - -	1815 to 1837	1131	387	34.21	
Cork,* - - - - - -	20 years	1431	751	52.48	
Gloucester,† - - -	1823 to 1832	516	231	44.76	11.00
Liverpool,‡ - - - -	1836	102	46	44.65	10.00
Glasgow,‡ - - - -	1836	122	51	41.80	10.00
Lincoln,‖ - - - - -	1820 to 1838	715	285	39.87	16.27
Suffolk,§ - - - - - -	5 years	362	167	46.10	28.07
American Asylums					
Hartford,¶ - - - -	1824 to 1840	1001	563	56.02	5.9
McLean,¶ - - - -	1836 to 1840	616	290	47.00	6.2
Bloomingdale¶ - -	1823 to 1840	2496	1145	45.87	8.87
Worcester,¶ - - -	1833 to 1840	1196	506	42.41	7.5
Frankford,¶ - - -	1817 to 1840	507	214	42.21	14.00
Vermont,¶ - - - -	1837 to 1840	239	98	41.00	4.6
Ohio,¶ - - - - - -	1839 to 1840	258	80	31.00	8.5
Staunton,* - - - -	1828 to 1839	157	47	30.00	9.
Kentucky,** - - -	1839 to 1840	273	27	9.89	25.6
Hudson,†† - - - -	1840	84	22	26.02	5.7

*Earle. †Pritchard. ‡British Medical Almanac. ‖Hill. §Crowther, quoted by Woodward. ¶Reports. **Reports of 1839-40. This includes the accumulated old cases, and idiots and epileptics of former years. ††Boston Medical Journal. ‡‡This per centage of deaths is taken from another table in Earle, and does not cover exactly the same years as the other columns. ‖‖This does not include 274 paralytics, 62 epileptics, and 15 idiots; but it includes 492 incurable cases which had been in the asylum many years previous to 1826.—Esquirol: Tom. II. p. 690-91.

IV.

Of the per cent. of all cases in three Asylums, 1839–40.

	Patients in the Asylum.			Cured.		Per cent of cures.		Per cent of deaths.	Eloped.
	Total.	Old cases.	Recent cases.	Old cases.	Recent cases.	Old cases.	Recent cases.		
Massachusetts,	559	372	187	34	128	9.14	68.45	6.5	
Ohio, - - - - -	258	170	88	21	59	12.34	~~31.20~~	8.5	1
Kentucky, - - -	273	212	61	13	14	6.13	22.95	25.63	21

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V.

Of the per centage of all cases discharged, 1839–40.

	Discharged.			Per cent. recovered.			Per cent. died.
	Old.	Recent.	All.	Old.	Recent.	All.	
Massachusetts,	182	141	323	18.68	91.20	50.01	11.00
Ohio, - - - - -	51	69	120	41.17	85.50	66,66	18.00
Kentucky, - - -	97	34	131	13.04	41.17	20.06	53.00

VI.

Of the per centage of all admitted, 1839–40.

	Admitted.			Cured per cent.		
	Old cases.	Recent.	All.	Old.	Recent.	All.
Massachusetts,	182	159	341	18.68	80.05	47.00
Ohio, - - - - -	170	88	258	12.35	67.00	31.00
Kentucky, - - -	101	50	151	12.87	28.00	18.00

The third of these tables shows the comparative success of twenty-seven hospitals in curing the insane. The fourth column of figures shows the per cent. of recoveries of all that

were in the asylums during the time specified. The last column shows the per cent. of deaths.

The three institutions, compared in the other tables, are all established on the same principles and for the same general purpose—to receive the pauper lunatics and those who were dangerous to be at large. Table No. IV. shows the per cent. of cures upon all, enjoying the benefits of the hospital, for two years. No. V. shows the per cent. upon all discharged, and No. VI. upon all admitted.

The asylums in Kentucky and Massachusetts being old, contain an accumulation of incurable cases, which had resisted the efforts of previous years; therefore table No. IV. would show a per centage of cures in favor of Ohio, all of whose cases had at least been untried. The asylums in Ohio and Massachusetts, on account of their crowded condition, are obliged to discharge those who are incurable, but who are not dangerous to be at liberty; therefore the per centage in the table No. V., reckoned upon the discharges, might show a number of cures in favor of Kentucky. This last asylum undoubtedly admits a much greater proportion of idiots and epileptics (22 in 151)* than either of the others, hence the last table might exhibit a result against it as to the old cases, (for in that class are included all the epileptic and idiotic,) but not as to the recent cases.

Taking these three bases of the calculation, we believe these tables will show a true comparison of the influence of these institutions over their deranged inmates. But whatever may be the method of comparison, we cannot fail to be struck with the great number of deaths, the frequency of elopements, and small number of recoveries in our asylum.

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* "Very few were brought to the institution, except those of the very worst class of patients." Transylvania Journal, III., 88.

The census of 1840 gives 317 lunatics supported at public charge, and 516 at private charge, in Kentucky. Of these only 176 were in the asylum. The State allows pauper lunatics to be supported at their homes, out of the public treasury, if they be peaceable, and if that cost be no more than it would be in the asylum. Of course then the friends would be apt to send the worst, the most excited, and most fatuitous to Lexington.

In the last two years, with an average of 134,5 in the house, at Lexington, 35 died each year. In 17 years, out of 841 patients admitted, 337 died, which is 26 per cent. on the average annual population; and, after deducting the 43 deaths of cholera, 36 per cent on all admitted. In 22 years, the McLean asylum admitted 1856 patients; of these 160 died, which is 8.6 per cent. And in the Bloomingdale asylum, during the period of 17 years, 8.87 per cent. died. In the French and British asylums, the proportion of deaths is much higher than in the American, excepting that of Kentucky. The deaths in the European vary from 7 per cent. to 48 per cent. depending both upon the character of the patients admitted and the management of the hospital. Insanity is not, in itself, a very dangerous malady; yet it so affects the constitution, as to leave it open to the attacks of other diseases, and with far less power to resist them. Dr. Theobald says,* of the Lexington asylum, "The degree of mortality is to be accounted for, to a considerable extent at least, by reference to the wretched character and condition of a large majority of the cases occurring. A more particular account of these would have presented a number very infirm from advanced life, and others laboring under great bodily debility from other causes." "A disease sometimes in the form of dysentery, but much more frequently of severe diarrhœa, has prevailed in the institution to an unusual extent, and has terminated the existence of a large majority of those who have died." Dr. T. thinks this is owing to the want of regular and sufficient exercise and vicissitudes of temperature, as it occurs mainly in the extremely fatuitous and idiotic patients, and in the spring and fall seasons. Mr. Farr† says, "the mortality of 7 per cent. annually in the asylum at Gloucester, may be fairly ascribed to insanity. The excess above this must be attributed to the diseases generated by the limited space in which the unhappy lunatics are confined, to the collection of large numbers under the same roof; the impurity of the atmosphere; the want of exercise and warmth; the poor unvaried diet, and the deficiency of medical attendance."

*Transylvania Journal, 1830. †London Lancet, May, 1841.

These causes of disease require the greatest watchfulness to guard against them, both in Britain and America, and in the most improved institutions, they are resisted and overcome. How far they operate in conjunction with the causes, before stated by Dr. Theobald, in producing the extraordinary mortality of the Kentucky asylum, is only to be learned by a thorough investigation of that institution, and comparing it in its internal arrangements and administration with other asylums, in which the mortality is much less.

Elopements.—Seventy-eight eloped from the asylum at Lexington, out of 841 patients in 17 years, which is about 1 in 11. We have examined the reports of ten other American asylums, which run back variously from one to twenty-four years, and include 5325 patients, and find that of all these only 32 have eloped, which is 1 in 166. Here is an extraordinary and unaccountable difference.

The Lexington asylum has a high fence to prevent the escape of the patients. Whereas most others have no other enclosure than such as surrounds any private residence. But they have a large corps of attendants, who, by their close watchfulness, and by securing the confidence of those under their charge, retain them within their control.

These reports, which we have now reviewed, show that while most of the American asylums are doing more for the cure of insanity than any others in the world, ours is doing the least—that while others are curing from seven to nine-tenths of all that have been deranged one year and less, and from two to four-tenths of those who have been insane a longer time, our asylum has cured no more than one-tenth of old cases and four-tenths of the recent ones. It is plain then that we are not doing in Kentucky, for this unfortunate class, all that the present state of science can accomplish, and that humanity expects of us.

This deficiency is to be partially accounted for, by the character of the patients sent to the Lexington Asylum. For although insanity is primarily as curable in this as in any other State, yet as the most obstinate and incurable cases are se-

lected, out of all in the State, to be sent to the hospital, the chance of recovery must be less, and the danger of death greater than it is in other institutions.

Another cause is in the structure and administration of our asylum. This was established, when insanity was supposed to be mostly without remedy, and it was not thought needful to make provision for its cure. It was built for the protection of the public and for the security of those lunatics who were existing in strong places or strolling over the country. To maintain them comfortably and economically was all that philanthropy asked or medical science promised. Recovery was a secondary object, rather than the main principle. Public security and economy were obtained, for the dangerously mad are confined, and the expense of supporting the whole is much reduced. From 1802 to 1822 the cost to the State of maintaining pauper lunatics had increased from $892 to $15,492 per year. But by the establishment of the asylum, this fearfully rapid augmentation of expense was arrested, and the annual charge was even reduced below that of the five years, from 1819 to 1823. During these last years of the old system of supporting this class of paupers, they cost $23 per 1000 inhabitants; and during the last 12 years of the new system, from 1829 to 1840 they cost the State only $17 per 1000 inhabitants.

The establishment of this hospital was then indeed an improvement upon the old plan of supporting the lunatics, in their respective counties, under the care of committees. They gained in comfort, and some of them were restored to sanity and to their friends. But since 1824, the whole theory and practice respecting insanity has changed. It is now found to be a physical disease, and to be as curable as any other acute disorder; and asylums are now constructed and administered to correspond with the improved notions of the nature of the malady and of its treatment. But while others have been advancing and exhibiting increased success, year by year, our asylum has remained the same.

Is this state of things necessary? Cannot we do as much for the lunatic in Kentucky, as is done in other States? Most

surely we can. But first we desire, that the Legislature would appoint a committee to examine the asylum and consider the whole matter. Let them investigate the means and facilities for the treatment of the insane, and the principles and details of their management. Let them compare this with the best asylums and see wherein they differ, and why there is such a wide difference in their good results. Let them read the full and satisfactory reports of Dr. Awl and Dr. Woodward, and see how far all, that is good and useful in their hospitals, can be adopted here. We are aware that committees have gone from Frankfort to Lexington, every winter for this purpose; but their examinations have not been so thorough, nor their reports so full and minute, as we now hope to see. And we doubt not, such a procedure would discover the causes of our deficiencies, and suggest suitable remedies.

Every successful institution has an experienced physician, devoted exclusively to the insane with ample remuneration to induce him to give up every other occupation. Living in the asylum, he is able to give his whole time and energy to studying the character and symptoms of his patients; and to the cure of their disease. Without this advantage, our asylum must, as it has done, fail to reap the success of others.

We want occupation of all sorts, labor and amusement, more agricultural employment, shops for mechanics, exercise abroad by riding and walking, games, books and periodicals in the house. We know that it was thought some years since at Lexington, unsafe to put edged tools into the hands of the insane, lest their propensity to destruction might prove injurious to themselves or others.* But subsequent experience has shown, that they may be intrusted with sharp instruments, and no fears arise for their improper use of them. Hundreds have worked with chissels, hatchets, &c., in the McLean asylum, and not the slightest accident has occurred.† Patients are employed as carpenters in the hospitals of Utrecht and Sonnestein, at Hanwell, Richmond, and Wakefield in Europe, at Worcester, Charlestown, Frankford, and Co-

*Trans. Jour., III, 83. †Bell's Rep., 1839.

lumbus, in this country. "Shoe-makers, tailors and carpenters have been, for years, tried and found to work as diligently as when at liberty. I cannot see or admit any limit to the application of this principle."*

Religious exercises have been elsewhere exceedingly beneficial, and several asylums have a regular chaplain devoted to the moral and religious treatment of the insane and with singularly good effect, to compose and restore them.

A complete examination of this asylum and comparison with others, will suggest other means of reform needful to give it all the facilities for curing the insane, which modern science has developed in other places.

To do all that may be required, to employ a physician exclusively, and such a number of assistants, and of such character as to have the best influence over the patients—to provide shops, horses, carriages, library, agricultural and mechanical tools of various sorts, and all the means of occupation, light and laborious, will, at first, increase the expense to the State. But in the end it will be a saving of money, for by this additional outlay, the recent cases may be mostly cured, and a much greater proportion of the old cases than now recover. It is much cheaper to cure than to support the patients in unrelieved insanity. In the former case, a few months is all that would be needed to support them. In the latter, they must be a tax upon the public as long as they live. The 142 in the asylum at the beginning of this year, had resided there, on an average, forty-three months. While those who were cured, had lived there on an average, only eleven months. So far as this comparison goes, it proves that the curable cost the State only one-fourth as much as the incurable.

We propose, also, that the Assembly repeal the law of 1825, which permits such lunatics or idiots as are quiet and peaceable, and can be maintained at the same cost, at their homes as at the asylums, to remain in their respective coun-

*Browne, p. 96.

ties, under the charge of their committees, and draw the cost of their support from the public treasury.

And that the Legislature should withdraw all out of door allowance for the support of any lunatic away from the asylum, until he or she shall have been placed under its care, long enough to decide whether the case were curable or not. This would compel every pauper to be sent to Lexington as early as possible, after the attack of insanity, and thereby secure to the asylum a much greater proportion of recent cases and diminish the old ones. This would very much lessen the cost of maintaining lunatics. Dr. Woodward demonstrated, that the average cost of maintaining 25 recent cases, both before they entered and during their residence in the hospital, was $56 each. While that of supporting as many of the oldest cases was $1903 each.* Without doubt, similar results would be obtained from comparison of these two classes in this State.

We have seen, that the chance of recovery in every hospital is much greater for the recent than for the chronic cases. Dr. Woodward's tables show, that, 88 per cent. were cured of those insane less than one year; 57 per cent. of those insane from one to two years; 34 per cent. of those insane from two to five years; and 11 per cent. of those insane from five to ten years.* Dr. Tuke, of the York asylum, gives 79 per cent. of cases of less than three months; 44 per cent. of those from three to twelve months; 25 per cent. of those of more than one year's standing, as curable.† Dr. Burrows cures 90 per cent. of very recent cases.‡ Dr. Bell, of the M'Lean asylum, cured 100 per cent. of all that were not interfered with, in 1838.‖ This is the greatest success on record—and could not always be expected even in that excellent institution. We see then, that insanity of very short standing is one of the most curable of all acute disorders. We hardly think, that a table of as many cases of dysentery, fever or pneumonia would show as many recoveries.

There is one other reason for sending patients early to the hospital: that is the difference of time required for recovery.

*Report, 1840. †Earle. ‡Browne. ‖Report.

We have analyzed the reports of cures, in the Worcester hospital, and find the following results:

Duration of insanity before entering hospital.	No. of cases.	Average length of disease before entering hospital.	Average time required for cure.
1 month and under,	115	18 days, - - - - -	15½ weeks.
1 to 3 months, - -	145	71 days, - - - - -	17 weeks.
3 to 6 months, - -	79	22 weeks, - - - -	18 weeks.
6 to 9 montns, - -	32	8 months, - - - -	23½ weeks.
9 to 12 months, -	36	11 months 3 weeks.	29 weeks.
1 to 5 years, - - -	65	35 months 2 weeks.	36 weeks.
5 years and over, -	17	122 months 3 weeks.	39 weeks.

Dr. Pritchard's analysis of the recoveries in the Gloucester asylum, gives 19 weeks as the time required to cure the cases of one month and less duration; and 33 weeks for the curing those of one to three month's standing.*

The time required for recovery increases, with the previous length of the disease, though not in exact ratio. Yet it is sufficiently manifest, that the delay of sending a lunatic to the asylum not only increases the expense of the cure, but also diminishes very rapidly the chance of the recovery.

Having now demonstrated how much is done for the cure of insanity, by the best institutions of other States, and how little is done for the same purpose in Kentucky, it is manifest, that our asylum falls very far short of the good success of theirs: and yet we offer our sincere opinion, that we may do as well as they. If we will put our asylum on as liberal and improved footing as others, if we will supply it as freely with medical and all other attendants, and means of occupation, if we will so frame our laws as to send every lunatic, in the very incipiency of the disease, to Lexington, we shall rescue many good citizens from the bondage of hopeless insanity, and save to the State a great part of the expense of maintaining them.

We now leave the whole matter in the hands of our enlightened Legislature; and while they remember, with satis-

*Pritchard, p. 103.

faction, that "Kentucky has the honor of being the first State in the Union," excepting Virginia, "to establish, at the expense and under the control of the State, an asylum for poor lunatics,"* and that long afterwards other States followed her noble example; they must also remember, that those States have made much more rapid improvements than she has, and outstripped her in this march of humanity. And as they took their first lessons of us, to establish their asylums, so we must now take our second lesson of them to raise our lunatic hospital up to the standard of the usefulness of theirs; and we earnestly beseech our philanthropic Legistors not to falter in this generous work, until insanity shall be shewn to be as curable at Lexington, as it is any where in the land. E. J.

*N. A. Review, XLIV, 112.

NOTE.—In adddition to the authorities frequently referred to, in course of this article, we are indebted, for many of the foregoing facts, to the exeeedingly valuable and interesting reports of the Prison Discipline Society, whose benevolent and indefatigable secretary, Rev. Louis Dwight, has searched into every lunatic asylum as well as every prison in our land. His reports embraee a vast variety of information relative to the various means and suecess of treating insanity in the different hospitals, and cannot be read without deep interest and profit, by the physician and philanthropist.

Erratum.—In page 470, second line from the bottom, for 1839–40, read 1838, '39 and '40.

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ALLEGED DISCHARGE OF HAIRS FROM THE HAND.

Our colleague, Prof. Yandell, has received from Dr. Parker T. Shuff, of Scott county, Ky., a letter, dated Nov. 16, 1841, from which we make the following extract:

"Miss Penelope Stout, aged 13, a sprightly girl in good health, about five weeks ago, complained to her mother that the end of her right thumb felt as her foot did when asleep, (such was her own expression;) soon after which, one of the enclosed hairs (if such they can be called) issued from it, and was soon followed by others. Indeed, they have been protruded to the number of from two to ten or twelve, in the 24 hours ever since. The first came out of the ball of the thumb, the subsequent from under the nail. They leave no perceptible aperture. Their escape after they show themselves is almost instantaneous. Some of them are eight or ten inches long. They are of different colors, black, red, and nearly white. You will see that some of the ends are crooked; which is observed to retard their exit."

Since the receipt of this letter, we have conversed with two highly respectable, non-professional gentlemen, who testified to the extraordinary account given by Dr. Shuff. They had seen the hairs issue precisely in the manner just described.

We know not what to say of this *lusus naturæ*, if, indeed, we are to regard it as a reality. Dr. Cullen, the celebrated Edinburg Professor, who was fond of referring to the ancients for explanations of rare phenomena, once on a time gave a supper, at which boiled eggs were served up. A *savant* on opening one of them found in it a large black hair. It was shown to the whole party, when the distinguished professor immediately began to quote the ancients in explanation of the curious phenomenon; in the midst of which, his son announced, that he had perforated the shell and introduced a horse hair before the egg was boiled!

We may conjecture, that the learned professor argued, that as hair had often been found in an *ovarium*, it might be developed in an *ovum*. But hairs are found in various abnormal situations. First on the skin in places where they do not naturally appear. Second, in the mucous membranes. Third, in the ovaries. Fourth, in cysts, or encysted tumors, situated in the subcutaneous cellular tissue, where they are generally embedded in a fatty matter. If a wen were to suppurate, and hairs to issue with the discharge, there would not be any thing wonderful in the phenomenon. But the case before us does not seem to be of this kind. Still, as hairs are developed in cysts, imbeded in the adipose substance, it must be admitted to be possible, that they may be produced in that substance without a cyst; and as aculeated bodies make their way from one part of the system to another, without exciting pain, and finally issue from the surface; it must be granted, that hairs may do the same. But the alleged suddenness of their exit in this case, and the absence of inflammation in the skin, present difficulties which we shall not attempt to surmount, till we are *compelled*, by additional testimony, (not meaning any disrespect to our correspondent,) to believe in the reality of what he reports. Hairs, like pins and needles, when swallowed, might make their way to the surface. Some years since, Dr. Coxe reported in his Philadelphia Medical Museum, a case, in which a head of rye made its way from the stomach of a child, through the parieties of the abdomen; and in the pathological museum of the Medical Institute of Louisville, there is a pin which issued from the surface of the body, many years after it was swallowed.

The hairs, sent us, are of two kinds, black and white, inclining (some of them at least) to amber colour. The former are without bulbs or points, and look like sections. They are coarser than the

latter, which, again, are of different lengths and diameters, and have distinct bulbs. Both kind are strong and elastic; burn with an animal odour; sink in water; and, under maceration, become more flexible. Examined with a microscope, they exhibit the usual reticulated structure.

The date of Dr. Shuff's letter is the 16th of November, five weeks, as he states, after the first hair appeared. Ten days subsequently, one of our informants saw them issuing.

Such are the statements which have reached us. If they are a fabrication, why then, gentle reader! you have lost as much time in reading as we have in writing, *et vice versa*, and so the account between us is balanced. But you may say, that if we have been hoaxed, it is no excuse for hoaxing you; to which we reply, that you need not be hoaxed unless you choose; that public journalists are always liable to be hoaxed; and that it is a less calamity to be made the subject of a joke, than to be always guarding against it. A hoax moreover is a harmless thing; in general leading to nothing more than a hearty laugh, which depurates the blood and promotes health and cheerfulness. In our next number we may perhaps give you a warrant for such a laugh.

D.

THE SHOWER OF FLESH AND BLOOD.

Our rationale of this shower, in the October number of this journal, was not satisfactory to our Lebanon friends, who declare that in adopting the rumor of the negroes' having fabricated it, we are the party "hoaxed.' The negroes it seems have not admitted their agency in concocting the shower, as we were informed they had done. Our friends, at the place where the matter was found, are confident that it must have fallen from above, and was a veritable shower. Professor Troost, of the Nashville University, visited the spot soon after the singular occurrence, and published a learned and interesting account of the circumstances in the Republican Banner. He is sure that the matter was animal, but he thinks not blood. He distinguished muscular fibres on maceration of the matter in water, which separated longitudinally, as in the case of dried beef, and were of a reddish

brown color. The pieces supposed to be blood were brown and resembled glue. One piece of flesh was found an inch and a half long, emitting a very offensive smell over the field. In all the particles found there was a distinct odor of animal matter in a state of putrefaction. Dr. Troost heated both the muscular part and that which had been called blood in a glass tube, and found them affected as beef or pork would have been in the same circumstances—there was a movement in the mass, a brown fluid rose, and a black animal charcoal remained.

The history of the strange event given to Dr. Troost was, "that on Friday, August 17, between one and two o'clock, P. M., the negroes of Mr. Chandler, near Lebanon, came in and reported that it had been raining blood in the tobacco field where they had been at work; that near noon there was a rattling noise like rain or hail, and drops of blood, as they supposed, that fell from a red cloud which was flying over. Intelligent men visited the ground, and observed drops of blood on the upper surface of the tobacco leaves, and portions of flesh and fat emitting a very offensive odor over the field." Dr. Troost cites many instances of red rain, red dust, red sand, red snow, showers of blood, so called, &c., in various centuries from 472 of our era to 1814, with the authorities, and concludes with a theory for this singular precipitate which we subjoin. After alluding to the well known power of the wind to transport solid materials through the atmosphere over a wide space, and to a great height, he observes: "Such a wind might have taken up part of an animal which was in a state of decomposition, and have brought it in contact with an electric cloud, in which it was kept in a state of partial fluidity or viscosity. In this case the cloud which was seen by the negroes, as well as the state in which the material were found is accounted for."

Supposing the facts to be as stated to Prof. Troost, this is a highly probable conjecture. The power of whirlwinds to elevate and transport solid and heavy bodies and deposite them in distant places, is a matter of familiar observation. Fish have been raised in this manner high into the air, and have fallen again in showers. The only matter about which we have had doubts was the fact of the descent of this flesh and blood from above. Y.

LOUISVILLE MEDICAL INSTITUTE.

In our last number we spoke of the prospects of a large class in the Medical Institute of Louisville as being encouraging. We are now able to state, for the satisfaction of its friends at a distance, that the expectation has been fully realized. The increase upon the number of students that were in attendance on the first of December, 1840, is more than twenty-five per cent. It will be found that the growth, this season, is fully equal to that of any former year, and that the class is one of the largest that ever assembled in any medical school west of the mountains. Y.

NEW WORK ON THE "CLIMATE OF THE UNITED STATES AND ITS ENDEMIC INFLUENCES."

Dr. Samuel Forry, of the Medical Staff of our army, whose "*Statistical Researches relative to the Ætiology of Pulmonary and Rheumatic diseases,*" were noticed in a late number of this journal, has issued proposals for a new work under the above title. It will be based on the army registers and returns, but in rearing the superstructure the author will draw materials from other sources. Judging from what we have seen of his labours, we cannot doubt that his undertaking will be ably executed; and that he will, to a great extent, supply a desideratum which all must admit to exist. The work will extend to 350 pages. Price, two dollars and fifty cents. Such of our readers as have intercourse with Louisville, may subscribe for it at the Library of the Institute and have their copies sent to this city. D.

SPINAL COUNTER STIMULATION IN CONGESTIVE FEVER.

Dr. Jno. B. Baird, of Franklin, Ky., writes us as follow: "In this neighborhood, this fall, the fevers were wont to assume a congestive type, and the bowels to be obstinately torpid—the strongest cathartics, repeated from day to day, producing no alvine evacutions. In

such cases, sinapisms over the spine, as recommended by Professor Yandell, Professor Caldwell and others, invariably produced the desired effect, if used in time, and those who were treated without them, as certainly died." D.

PROPOSED ENLARGEMENT OF THE JOURNAL.

Such of our readers as have not yet signified their desire to receive the Journal enlarged with book matter, but may intend to do so, need not carry that intention into effect; as the limited number of returns yet made, has determined our publishers to give up the enterprise.

TO CORRESPONDENTS.

Dr. Ferguson's Pathological and Clinical Reports, Dr. Carroll's paper on the Topography and Diseases of the Eastern part of Ohio, Dr. Smick's paper on those of the Wabash valley, Dr. Jones on Digitalis, and Dr. Dawson on Scarlatina, with several other communications have been unavoidably postponed.

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